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LIBERIA MUNICIPAL WATER PROJECT (LMWP)

YEAR 3 ANNUAL REPORT (OCT 2013 – SEP 2014)
QUARTERLY REPORT 4 (JUL 2014 – SEP 2014)



OCTOBER 2014

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Cover Image: February 2013 ground breaking ceremony for the Robertsport Pipeline Extension project. Pictured from left to right holding shovels: Choko Kromah, Chairwoman of the Robertsport Local Steering Committee; Deborah Malac, US Ambassador to Liberia; Chris Holmes, USAID Global Water Coordinator; and Charles Allen, Managing Director of the Liberia Water and Sewer Company (LWSC). Photographer: Edwin Fayia of The Observer Newspaper.

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
BOQ	Bill of Quantities
CAD	Computer Aided Design (Software)
CAO	Communication and Outreach
CBO	Community-Based Organization
CHF	CHF International (Now Global Communities)
CIP	Capital Improvement Project
COP	Chief of Party
COR	Contracting Officer's Representative
DCOP	Deputy Chief of Party
DMD-TS	Deputy Managing Director for Technical Services
EGC	Earth Geological Consultants Inc.
EMMP	Environmental Monitoring and Mitigation Plan
EOI	Expression of Interest
EPA	Environmental Protection Agency (Liberia)
ePORT	electronic Program Observation Reporting and Tracking
ESIA	Environmental and Social Impact Assessment
EWG	Engineering Working Group
FACTS	Foreign Assistance Coordination and Tracking System
FARA	Fixed Amount Reimbursable Agreement
GEMS	USAID Governance and Economic Management Support Program
GIS	Geographic Information System
GoAL WASH	Governance Advocacy and Leadership for Water, Sanitation and Hygiene
GoL	Government of Liberia
HCC	Host Country Contracting
HO	Head Office (LWSC) or Home Office (Tetra Tech)
HR	Human Resources
IDAMC	Internally Delegated Area Management Contract
IEE	Initial Environmental Examination
IU	Infrastructure Implementation Unit
ISR	Institutional Strengthening and Reform
IWASH	USAID/Liberia Water, Sanitation, and Hygiene Project
LD	Liberian Dollars
LHS	Liberian Hydrological Service
LISGIS	Liberia Institute of Statistics and Geo-Information Services
L-MEP	USAID/Liberia Monitoring and Evaluation Program
LMWP	USAID/Liberia Municipal Water Project
lpcd	liters per capita per day
LSC	Local Steering Committee
LWSC	Liberia Water and Sewer Corporation
M&E	Monitoring and Evaluation
MD	Managing Director

MLME	Ministry of Lands, Mines and Energy
MoE	Liberia Ministry of Education
MoF	Liberia Ministry of Finance
MoHSW	Liberia Ministry of Health and Social Welfare
MoPEA	Ministry of Planning & Economic Affairs
MoPW	Ministry of Public Works
MOU	Memorandum of Understanding
MT	Medium Term
NGO	Nongovernmental Organization
NRM	Natural Resources Management
NSDS	National Strategy for the Development of Statistics
NWRSB	National Water Resources and Sanitation Board
NWSHPC	National Water, Sanitation and Hygiene Promotion Committee
O&M	Operation and Maintenance
OIC	Officer in Charge
OJT	On-the-Job Training
OMT	Outstation Management Team
PAG	Project Advisory Group
PMP	Performance Monitoring Plan
PMT	Project Management Team
PMU	Project Management Unit
PPCC	Liberian Public Procurement and Concessions Commission
PSI	Population Services International
QA/QC	Quality Assurance/Quality Control
QIP	Quick Impact Project
QSIP	Quality Service Improvement Program
RF	Results Framework
RFI	Request for Information
RFP	Request for Proposals
RFQ	Request for Quotations
RFTOP	Request for Task Order Proposal
SA	Situational Analysis
SIDA	Swedish International Development Cooperation Agency
SOP	Standard Operating Procedure
ST	Short Term
STA/M	Senior Technical Advisor/Manager
STTA	Short-Term Technical Assistance
SUWASA	USAID Sustainable Water and Sanitation in Africa
TOR	Terms of Reference
TWG	Transition Working Group
UNDP	United Nations Development Programme
UNMIL	United Nations Mission in Liberia
USAID	United States Agency for International Development
USG	United States Government
UWSSP	Urban Water Supply and Sanitation Program (AfDB)
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WSE	Water Supply Engineer
WSP	World Bank Water and Sanitation Program
WSSC	Water Supply & Sanitation Commission
WTP	Water Treatment Plant

1.0 INTRODUCTION

The Liberia Municipal Water Project (LMWP), funded by the United States Agency for International Development (USAID), is supporting the design, tendering, execution and operation of water supply infrastructure improvements in the target cities of Robertsport, Sanniquellie, and Voinjama in Liberia. LMWP is assisting local and national authorities in developing plans for urban water supply and sanitation improvements, implementing water supply infrastructure improvements, and re-establishing local capability to sustainably operate and maintain the water supply improvements. During the four-year project base period, it is the goal of LMWP to help establish improved water supply access in each city, with infrastructure managed by locally-based entities capable of financially and technically sustaining the service. The improved water systems will provide public health and economic development benefits in the three target cities.

The project coordinates with the Government of Liberia (GoL) through the Liberia Water and Sewer Corporation (LWSC), Ministry of Lands, Mines and Energy (MLME), Ministry of Public Works (MoPW) and other ministries, agencies, and county and local authorities.

Tetra Tech and subcontractors implemented Year 3 of LMWP under USAID Contract No. EDH-I-00-08-00027 - Task Order # AID-669-TO-11-00002.

This Year 3 Annual Report (and 4th Quarterly Report) summarizes the activities and tasks completed during the 12-month project period October 1, 2013 through September 30, 2014.

2.0 EXECUTIVE SUMMARY OF YEAR 3 ACCOMPLISHMENTS

2.1 HIGHLIGHTS OF KEY ACCOMPLISHMENTS DURING YEAR 3

2.1.1 TECHNICAL ACCOMPLISHMENTS

Task 3: Institutional Framework for Water Provision

The primary goal of Task 3, achieving consensus on an institutional framework for water provision, was completed in Year 2 with signature of a Memorandum of Understanding (MOU) between LMWP and LWSC defining the overall institutional framework, specifically referencing Internally Delegated Area Management Contracts (IDAMC). Ongoing institutional support, including facilitation of agreement on financial management systems, monitoring arrangements, and other details enshrined in the LWSC-Project Cities MOUs and supporting documents, are described under Task 5. This work is now focused on the details of management arrangements, as opposed to the broader institutional framework.

Task 4: Capital Works

Coordination, Field Investigation, and Construction Management

- Conducted **regular meetings with the Engineering Working Group (EWG)** to keep them abreast of project progress and gain input on project deliverables.
- Conducted **field coordination and validation of engineering designs in each of the three cities with LWSC and other relevant stakeholders**. This work included review and minor adjustments to kiosk locations and other design features as required given current field conditions and land ownership issues. LMWP also coordinated water main railroad crossings in Sanniquellie with Arcelor Mittal (railway owner) and coordinated with the Ministry of Public Works (MoPW) and Swedish International Development Cooperation Agency (SIDA) to install sleeves prior to roadway improvements in Voinjama to minimize disturbances during construction.
- Completed **Geotechnical Investigations** via subcontractor, supervised all work, received and reviewed reports, and made additions and adjustments to designs and cost estimates based on the findings.
- Conducted ongoing **water quality sampling and stream flow measurement**. LMWP also developed a draft Memorandum of Understanding with Liberia Hydrologic Service (LHS) for establishment of permanent stream gauging stations and management of future surface water monitoring.

- Developed a **new household survey instrument** and conducted field surveys in all three target cities using LMWP staff. The survey included **1,678 households, 151 water sources, and geo-referenced all households and sources to facilitate spatial analysis** in Geographic Information System (GIS) including kiosk layout optimization.
- Subcontracted for **additional land survey work to support resolution of land issues**, including LWSC land acquisition. **Supported LWSC to document and resolve land rights issues** for the Robertsport Pipeline Extension Project; and provided ongoing support to LWSC to document and resolve land rights issues for the Capital Improvement Projects (CIP) and Mini-Systems. Support included field land survey work and oversight, and facilitation of obtaining written permission and/or certification of sales from land owners as required.
- Updated and implemented **LMWP construction management standard operating procedures and health and safety manual**.
- **Developed and implemented tablet-based (ePORT) field reporting templates** for site engineers, including geo-referenced site photos which allows for remote supervision of construction and site engineers' work.
- Provided local **engineering staff mentoring, trainings and career development**.

Robertsport Pipeline Extension

- Revised **site-specific EMMP for Robertsport Pipeline Extension Project** and obtained USAID approval.
- **Awarded Robertsport Pipeline Extension construction contract** (funded by USAID's Sustainable Water and Sanitation [SUWASA] Project) on October 28, 2013 to a Joint Venture of Pump and Tank Maintenance Company and Atlantic Engineering & Construction Company.
- Supported organization and administration of a **groundbreaking ceremony** for the Robertsport Pipeline Extension on January 16, 2014, and attended by **US Ambassador Deborah Malac, USAID Global Water Coordinator Chris Holmes, LWSC, and community representatives from all three LMWP target cities**.
- Provided **continuous capacity building support and oversight to Robertsport construction contractor** to ensure timeliness and quality, including assistance with understanding contract requirements, support to secure required letter of credit and bank loan, review and approval of shop drawing submittals, development of work plan schedules, invoicing, and more.
- Provided **construction management and oversight services**, including site engineers and submission of monthly Construction Progress Reports. Three public kiosks were constructed in Q2 of FY 2014, but additional requisite water main construction materials were not delivered until Q4 of FY2014. The project is expected to be completed and online in early FY 2015.
- Developed and implemented **mitigating measures to ensure construction can proceed during Ebola outbreak**, while minimizing risk to safety and security of LMWP personnel. See 'Snapshot' in Appendix D.

"Mini-Systems"

- Provided **detailed justification memorandum regarding the Mini-Systems** to USAID and LWSC.
- Conducted **site visits and land surveys of proposed Mini-System sites** in Sanniquellie and Voinjama.

- **Provided USAID with final “Issued for Bid” design packages, cost estimates, draft solicitation notice, draft tender documents, and environmental review form** for Mini-Systems in Voinjama and Sanniquellie.
- **Supported USAID in tendering of Mini-Systems**, including provision of potential bidders list, conducting a pre-bid meeting and site visits for interested bidders, responding to bidder questions, and participation in the technical evaluation process with USAID and LWSC, including serving on the review panel. Due to lack of responsive bids, the Mini-Systems were cancelled by USAID as a standalone project, but they will be integrated to the CIP.
- Conducted **materials procurement for mini-system materials not available in-country**, including technical evaluation and award of subcontractor or purchase orders to the various vendors.

Capital Improvement Project (CIP)

- Drafted and published relay versions of the **Request for Information (RFI)** for CIP construction in international publications; evaluated expressions of interest and provided summary to USAID.
- Provided complete **cost estimate for CIP and Mini-Systems** to USAID.
- Prepared **revised Cost Benefit Analysis (CBA)** to be submitted by USAID/Liberia to support Acquisition & Assistance Review & Approval (AARAD) Document.
- Conducted **multi-day detailed review of draft Capital Improvement Project (CIP) design package with USAID, LWSC, and the Engineering Working Group (EWG)**.
- Provided **detailed responses to USAID engineer’s multiple rounds of additional comments, revised and re-submitted draft CIP tender** package (including plans, specifications, basis of design report, draft request for proposals) to USAID incorporating all comments. Additional comments have been received from USAID and a final bid package will be completed in early FY2015.
- **Supported USAID in evaluation of procurement mechanisms** for CIP and Mini-Systems, including Fixed Amount Reimbursable Agreements (FARA).

Environmental Permitting

- Developed Draft Environmental Scoping Report and Environmental and Social Impact Analysis (ESIA) for CIP, responded to comments, and obtained **final approval of ESIA by Liberia EPA and USAID**.
- Received **construction permits from Liberia EPA for Mini-Systems and CIP** in all three cities.

Task 5: Transitional Management of Water Supply Improvements

Sector Support and Coordination

- Supported Liberian WASH sector leaders in development of language for **Liberia WASH Executive Order** for the establishment of National Water Resources Board (NWRB);
- Continued coordination between LWSC and the African Development Bank (AfDB) Urban Water Supply and Sanitation Program (UWSSP) on harmonization of selected institutional framework among all projects.

Management Arrangements Support

- Developed **Draft Internally Delegated Area Management Contract (IDAMC)** template and refined **Financial Procedures Guidelines** for review by LWSC and USAID.

- LMWP and LWSC Management **achieved consensus on the need to “ring fence” (segregate) LWSC Headquarters accounts from those of all Outstations, and the need to treat Monrovia as its own separate Outstation.** Each must be treated as a separate “profit center” in order to separately track each Outstation’s costs and revenues. This is a critical step toward achieving increased local autonomy, cost recovery and sustainability.
- Planned and facilitated **two Transition Working Group (TWG) Workshops (# 8 and #9) in Monrovia on January 9, 2014 and July 23, 2014 respectively.** These events included all relevant national and local stakeholders and focused on refinement of arrangements for outstation management, including local community participation, and review of Financial Procedures Guidelines and draft IDAMC template.
- Facilitated historic signing of **Memoranda of Understanding (MOU) between LWSC and each Target City defining the role of each target city in management and oversight of the respective water systems, including financial management.** This is the first time that LWSC has agreed to involvement of local communities in oversight and financial management of outstations, and represents a critical step toward increased outstation autonomy, a prerequisite for sustainability. The MOUs were attested to by USAID.

Detailed Support for Utility Sustainability

- Developed **Financial Procedures Guidelines** for Outstation management.
- Continued technical **assistance to LWSC on cost recovery and management procedures** for the Robertsport facility, including establishment of a **local utility bank account** for water sales revenue. The current arrangements represent the first time LWSC has agreed with local authorities to “ring-fence” accounts so locally generated utility revenue is used for local utility costs.
- Developed the following for review by USAID and LWSC: **Sustainability Monitoring Plan; Sustainability Monitoring Report Template; Local Business Plan Template; Outstation Audit Report Template.**
- With the USAID funded Sustainable Water and Sanitation (SUWASA) Project, developed **tariff structure and model based on the principle of cost recovery** for Kakata and Robertsport outstations based on current operations with potential application in other Liberian cities. Conducted **cost of service-based tariff setting workshop** with LWSC in partnership with SUWASA. **Refined cost of service analysis** based on additional information from LWSC and refined for specific case of the Robertsport Pipeline Extension. This information was used in the development of Business Plans including tariff adjustment considerations.
- Facilitated development of **Draft Business Plans and Performance Targets for all three LMWP target city outstations**, plus Buchanan, Kakata, and Zwedru.
- In concert with LWSC, developed **Organizational Charts** for Robertsport Pipeline Extension, Mini-Systems and CIPs in Robertsport, Voinjama and Sanniquellie.
- Prepared internal draft of **LMWP Water Quality Assurance Plan.**

Field Operations Support

- Provided continual **technical assistance to LWSC in the interim operation, maintenance, and management of the Robertsport facility**, including **direct staffing and logistics support** for plant operations, maintenance, monitoring, and management, including water quality assurance testing and analysis. The **system continuously provided chlorinated water to Robertsport residents throughout FY2014.**
- **Repaired and painted LWSC offices** at the Water Treatment Plant (WTP) in Robertsport;

- Provided **outreach, logistics and communications support to Local Steering Committees** and community members in Voinjama, Sanniquellie and Robertsport;
- Prepared revised and **Robertsport Operation and Maintenance (O&M) Manual** for system expansion currently underway.
- Conducted regular **monitoring and evaluation and feedback visits** to Robertsport with LWSC and Local Steering Committee and submitted **Sustainability Monitoring Reports**.
- **Procured one-year supply of chlorine tablets** for disinfection at the Robertsport Water Treatment Facility.
- **Procured water quality testing equipment** to conduct required testing and help build the capacity of LWSC.

Task 6: Capacity Building

- **Finalized LMWP Capacity Building Plan for LWSC and the Local Steering Committees (LSCs)**, including details on sub-topics, learning objectives, intended audience, and schedule for all training modules.
- Continued coordination between LWSC and the African Development Bank (AfDB) Urban Water Supply and Sanitation Program (UWSSP) on harmonization of selected institutional framework among all projects including development of a **Consolidated Capacity Building Plan and matrix under the aegis of the Capacity Building Task Force** combining both LMWP and UWSSP capacity building needs for the Outstations.
- **Initiated implementation of the Capacity Building Plan** in concert with AfDB. This consisted of the successful implementation of practical, outcomes-based trainings, including **more than ten individual training modules for over 100 participants** on topics varying from computer skills and report writing to water quality management. Written course feedback provided by participants, including numerical scoring, was overwhelmingly positive. Capacity Building Plan implementation was put on hold in July due to Ebola, which has limited LMWP's ability to transport trainees around the country and gather in groups.
- Facilitated the participation of the LMWP Chief of Party and LWSC Managing Director **in Africa Water Week conference in Senegal** (May 26-31, 2014) and the **Water and Sanitation for All in Africa's (WSA) 3rd High Level Forum** (21-23rd November, 2013) in Abidjan, Cote d'Ivoire, during which they represented Liberia's water utility sector and met with water utility professionals from around the continent and around the globe to share experiences and explore possible twinning partnerships.
- Facilitated LWSC to **advertise for, shortlist, and interview candidates for proposed engineering positions in each target city; Finalized recruitment to have the site engineer for Robertsport** hired and be seconded to the LWSC. Also developed Terms of Reference and advertised for proposed other embedded positions including Monitoring and Evaluation Specialist and a Behavior Change/Social Marketing Specialist.
- Procured **computer hardware and software equipment for LWSC valued at approximately \$40,000 USD** to support data collection, analysis, communications, coordination and monitoring between LWSC head office and the outstations.
- Provided USAID with language inputs to the **611 (e) certification process**.
- LMWP Water Utility Operations and Institutional Strengthening Specialist hired and **"embedded" within LWSC** to provide continuous support.

- **Internal staff training** including “hands-on” office and field-based training, as well as more formal instructor-led training. Training examples included drafting RFPs and design documents, AutoCAD design, preparation of Bill of Quantities (BOQ), field observation of geotechnical and survey work, field site surveys, household and water source surveys, water quality sampling, reviewing subcontractor reports, pre-construction coordination with stakeholders regarding impacts to other facilities and utilities, and more formal trainings on construction management (including Construction Management Program) and pipeline design.
- **Regular ‘hands-on’ training and mentoring of LWSC** in operations, maintenance, planning, and management through LMWP’s presence in Robertsport and frequent interactions with LWSC.
- Developed and implemented a **Construction Management Program** defining roles and responsibilities of the Construction Management Team, including reporting requirements, document control expectations and quality assurance and oversight approach, as well as samples of daily and weekly reports, quality assurance (QA) and testing forms, document control checklists, and background of the various elements of the project life cycle.

Task 7 - Coordination with Other USAID (and other donor) Programs

- Coordinated with **USAID Liberia Energy Sector Support Program (LESSP)** with regard to renewable energy, and to share experiences and lessons learned related to construction tendering and construction management.
- Coordinated with the **West Africa Power Pool** regarding potential future electric grid connections.
- Coordinated with the **World Bank-funded West Africa Regional Fisheries Project (WARFP)** site project in Robertsport with regard to design considerations to accommodate a piped water connection.
- Continued coordination and cooperation with **the African Development Bank (AfDB) Urban Water Supply and Sanitation Program (UWSSP)** on capacity building, institutional arrangements, and construction management. Established new regular forum for information sharing between LWMP, UWSSP, and LWSC. Collaborated with AfDB consultants as required, such as providing inputs on Public Private Partnerships (PPP) presentation for LWSC senior management.
- Coordinated with **USAID/Liberia Water, Sanitation, and Hygiene Project (IWASH)**, including shared offices in Sanniquellie and Voinjama which were transferred to LMWP, and on development of a Social Marketing of safe water strategy / Plans of Action.
- Continued regular attendance at **National Water, Sanitation and Hygiene Promotion Committee (NWSHPC)** and **USAID donor coordination meetings**; Provided detailed comments and feedback on **1st Liberia WASH Sector Performance Report**; participated in **validation workshop of the Draft Drinking Water Quality Standards in Buchanan**; facilitated the annual **WASH Sector Joint Sector Review** including provision of funding for logistics, and served as active participant; and participated in regular meetings of the **WASH Ebola Task Force**.
- Coordination with **SUWASA** to secure funding for Robertsport Pipeline Extension and to provide technical support regarding cost of service.

2.1.1 ADMINISTRATIVE AND OTHER ACCOMPLISHMENTS SUMMARY

- Developed and implemented **mitigation measures during the Ebola crisis to ensure the program’s objectives are able to advance, while protecting health and safety of staff**. These have included increased training for all staff on Ebola prevention, addition of health screening measures at project

offices, updating health and safety manuals and procedures, contracting with a private medical services to ensure staff have safe access to Ebola and non-Ebola medical issues, monitoring of local and international news and reports from our security firm (ISOS), increased transport allowance to enable staff to avoid public transit, and increased discretion with regard to in-country travel and group events. All USN, TCN, and local staff have remained with the project throughout the outbreak.

- Recruited and hired **Utility Operations and Institutional Specialist, Procurement and Subcontracting Specialist**, new **M&E Specialist**, and **Director of Administration and Finance (DAF)**, and **Robertsport field engineering and administrative staff**.
- Completed **renovation of LMWP office in Robertsport** and **relocated staff** including site engineer, administrative assistant/community liaison, and driver.
- Secured **field office space in Sanniquellie and Voinjama**.
- Deployed Tetra Tech's **electronic Program Observation Reporting and Tracking (ePORT) system** for LMWP to streamline and facilitate project data collection and information sharing via tablet computers and cloud-based data storage.
- Conducted **Data Quality Assessment (DQA) with Liberia Monitoring and Evaluation Program (L-MEP)**.
- Prepared and submitted **application for the USAID Development Lab's 'Turning Data into Action Support Prize'**. The LMWP proposal the use of sensors to monitor water quality and quantity remotely was selected as a finalist.
- Conducted successful LMWP Year 3 **Work Planning Workshop** including all relevant stakeholders. Year 4 Work Planning Workshop was not conducted due to Ebola.
- Revised and received USAID approval **revised Performance Monitoring Plan (PMP)** incorporating USAID's comments.
- Conducted **Data Quality Assessment (DQA)** with Liberia Monitoring and Evaluation Program (L-MEP).
- Supported USAID to submit **application for the USAID Development Lab's 'Turning Data into Action Support Prize'**. The LMWP proposal the use of sensors to monitor water quality and quantity remotely was **selected as a finalist**, and had interview with the Development Lab.

3.0 UPDATES ON Q4 PLANNED ACTIVITIES AND STATUS OF CONTRACTED TASKS

3.1 QUARTER 4 PLANNED ACTIVITIES UPDATE

Table 3.1 presents the activities that were planned for project Year 3 Quarter 4 and their current status.

TABLE 3.1. LMWP QUARTER 4 ACTIVITIES SUMMARY

ACTIVITY	TIMELINE	STATUS
Task 4: Capital Works		
Work with LWSC to acquire land deeds for Voinjama and Sanniquellie mini-systems, CIPs, Kiosks, LWSC WTP and Elevated Towers	July - Sept	Ongoing
USAID approval of EMMP (Support USAID to finalize)	July - Sept	Completed
Establish Liaison Officers as local offices come online	July - Sept	Robertsport liaison officer hired
Task 5: Transitional Management		
Internally Delegated Area Management Contract (IDAMC) <ul style="list-style-type: none"> Develop draft IDAMC – Robertsport and Kakata Sensitization/pilot in Robertsport and Kakata 	July - Sept	Ongoing, Draft IDAMC template finalized; Sensitization in Robertsport underway
Finalize Robertsport O&M manual and financial procedures guidelines	July - Sept	Completed
Pilot Asset Management System software in Robertsport and Kakata	July - Sept	Ongoing, Asset Inventory completed for Robertsport, pending for Kakata
Local Business Plans for Robertsport and Kakata	August	Ongoing, Robertsport plan complete
Complete Mini-system operational procedures/manual for systems in Sanniquellie and Voinjama	July - Sept	Cancelled per USAID instructions
Complete Mini-system financial procedures/manual for systems in Sanniquellie and Voinjama	July - Sept	Cancelled per UAID instructions
Develop IDAMC – Sanniquellie and Voinjama	Aug-Sept	Pending Business Plans development
Operator Audit Reports Biannual (dependent on system establishment)	Oct	Pending

ACTIVITY	TIMELINE	STATUS
Support Kakata in development of financial procedures guidelines once O&M Manual available	July - Sept	Ongoing – Working with Kakata OIC and LWSC
Support LWSC in identifying and developing policy for accommodating customers who are willing and able to install a metered piped house connection (associated tariff, construction requirements, additional staff requirements)	July - Sept	Ongoing – preliminary list of customers developed for RobertSPORT
Monthly Sustainability Monitoring (Monitoring and Evaluation) and Feedback meeting with LWSC and LSCs RobertSPORT	July - Sept	Ongoing
Safe Water Marketing and Communications Work with LWSC and sector stakeholders including IWASH to develop an updated joint LWSC/LMWP safe water marketing and communication and outreach strategy for LMWP target Outstations	July - Sept	Pending hiring of Behavior Change/Social Marketing Specialist, currently on hold
USAID/GoL Implementation Letter	July–Sept	Ongoing - Draft submitted to USAID
Sign LWSC/Cities Memorandum of Understandings (MOUs)	July	Completed
Finalize Sustainability Monitoring Plan	July	Completed, pending USAID approval
Develop Internally Delegated Area Management Contract (IDAMC) Template	July–Sept	Draft completed and reviewed with the LWSC and LSCs
Support LWSC development of internal monitoring and evaluation (M&E) unit and procedures to monitor Outstation operations	July–Sept	M&E Terms of Reference (TOR) completed and advertised
Provide continued technical assistance to LWSC in the interim operation, maintenance, and management of the RobertSPORT water system	July–Sept	Ongoing
Provide logistics and communications support to local steering committees	July–Sept	Ongoing
With AfDB UWSSP, support development of financial procedures manual for Kakata, based on LMWP-developed O&M manual	July–Sept	Ongoing with UWSSP
Develop social marketing of safe water action plan with IWASH and Population Services International (PSI)	July–Sept	On hold per USAID request
Continue support to LWSC on cost of service tariff setting, including establishment of tariff for RobertSPORT system	July–Sept	Ongoing
Task 6: Capacity Building		
Conduct Quality Service Improvement Program/Service Audit Conduct workshop using STTA(Management and Board)	August	Pending, delayed due to Ebola
Potential off-site courses for LWSC senior management and board Explore further with LWSC and USAID	August	Ongoing

ACTIVITY	TIMELINE	STATUS
Twinning: Develop draft plan for water operations partnership (WOP) twinning relationship with regional utility (e.g., NWSC for technical support and capacity building)	August	Pending, delayed due to Ebola
Construction Management: Additional trainings for LMWP seconded field engineers to LWSC as they come online	July	Pending deployment of Robertsport engineer
Communication and outreach, and gender mainstreaming training <ul style="list-style-type: none"> Work with LWSC and USAID to finalize training plan Deliver Training 	July	Pending, delayed due to Ebola
Asset management software training for small systems	Sept	Pending, delayed due to Ebola
Kiosks operation, maintenance and financial management training	August	Pending, delayed due to Ebola
Small Water Utility Management and Best Practices Training		Pending, delayed due to Ebola
Outstation Budgeting, Accounting, and Financial Management Training	August	Pending, delayed due to Ebola
Customers Care Training (communication, outreach/community relations, quality of services(LWSC, LSC)	August	Pending, delayed due to Ebola
Mini-System Operations and Maintenance	Sept.	Pending, delayed due to Ebola
Work with LWSC to develop an updated joint LWSC/LMWP communication and outreach strategy for LMWP target Outstations	July–Sept	Pending hiring of Behavior Change/Social Marketing Specialist, currently on hold
Support ongoing AfDB and World Bank Water and Sanitation Program (WSP) efforts to establish a computerized billing system for LWSC, with focus on Outstations	July–Sept	Ongoing – Template provided to LWSC for testing
IDAMC implementation training (monitoring, reporting, performance evaluation) for Outstation staff, LWSC M&E unit, and LSCs in Robertsport and Kakata	July	Pending, delayed due to Ebola
Continued internal staff training related to engineering, construction, reporting, and other topics	July–Sept	Ongoing
Recruitment (LWSC/LMWP); Staffing		
LMWP <ul style="list-style-type: none"> Field Office Staff: Liaisons, admin assts., drivers; 		Ongoing; Robertsport Completed; Sanniquellie and Voinjama pending
<i>LMWP/LWSC Secondment</i>	July–Sept	
Support LWSC to hire three (3) field engineers for Sanniquellie and Voinjama		Interviews completed; Robertsport hiring in process,
Support LWSC to hire an Monitoring & Evaluation (M&E) Specialist to support monitoring of Outstations		TOR finalized and advertised for applicants

ACTIVITY	TIMELINE	STATUS
Hire Communication/Outreach(Behavior Change Communication (BCC) and Social Marketing Specialist		TOR Finalized and advertised for applicants. Hiring Pending discussions with LWSC
Task 7: Coordination With Other Projects		
Continue coordination with AfDB regarding capacity building and institutional framework	July–Sept	Ongoing
Continue coordination with IWASH regarding marketing of safe water strategy/action plan and field office space	July–Sept	On hold due to Ebola and hiring Behavior Change/Social Marketing Staff
Task 8: Planning and Reporting		
Quarterly Financial Reporting	Jul	Complete
Annual Progress Report and Procurement Plan update	Sep	Complete
Environmental Mitigation and Monitoring Plan (EMMP)		Completed
Performance Monitoring Plan (PMP):		
• Submit Revised PMP		Completed
• Approval by USAID		Pending
• LMWP data entry into Performance Indicator Data System (PIDs) with L-MEP		Ongoing
Final household survey report submission to USAID		Ongoing
Monthly Sustainability / Evaluation and Feedback Reports	Recurrent	Complete

3.2. STATUS OF CONTRACTED TASKS

Following is the list and status of each of the eight Tetra Tech contracted tasks.

TABLE 3.2. STATUS OF CONTRACTED TASKS

No.	TASK	STATUS
1	Situational Analysis	Completed
2	Plans for Staged Water Supply and Sanitation Infrastructure Improvements	Completed
3	Institutional Framework for Water Provision	Completed
4	Capital Works	Ongoing
5	Transitional Management of Water Supply Improvements	Ongoing
6	Capacity Building	Ongoing
7	Coordination with Other USAID Programs	Ongoing
8	Planning and Reporting	Ongoing

4.0 UPDATED STATUS OF CONTRACT DELIVERABLES¹

CURRENT DELIVERABLES SCHEDULE			STATUS
Task 4: Capital Works			
1	Preliminary Design	September 30, 2012 (Short-Term); December 31, 2012 (Medium-Term)	Preliminary ST designs were submitted on July 3, 2013, after direction was provided by USAID relative to funding availability, which impacted design. Per USAID technical direction in August, 2013, the ST/MT projects were combined into one package for a single procurement to be known as the Capital Improvement Project (CIP) which would be procured by USAID. This decision followed approximately a year and a half of discussions and assessments of LWSC and GoL capacity for procuring of the construction works. A CIP preliminary design package and the Mini System designs were submitted on Sept. 30, 2013. ST and LT are no longer relevant terms.
2	Final Design	November 30, 2012 (Short-Term); July 31, 2013 (Medium-Term)	Following receipt of partial Preliminary Design comments from USAID on November 13, 2013, a revised package was submitted along with draft tender documents for CIP in February, 2014. USAID provided comments relative to the Robertsport portion of CIP in April 2014, Sanniquellie portion in May 2014, and the Voinjama portion in June 2014. A July 7, 2014 "Issued for Bid" package was submitted incorporating all USAID comments. Additional USAID comments were provided in September 2014 and are now being addressed.
3	Tender Documents and Award Confirmation	January 31, 2013 (Short-Term); October 30, 2014 (Medium-Term)	Tetra Tech is not responsible for tendering, so 'Award Confirmation' date will be dependent on USAID procurement schedule, which is currently on hold pending arrival of additional Mission contracting office staff. Draft tender documents were initially provided to USAID in February 2013. Following multiple rounds of comments and receipt of a new template, a revised draft was provided January 19, 2014. Multiple rounds of comments and revisions followed, including drafts in April 2014 and September 2014.
4	Field Construction Reports	February 28, 2013- June 30, 2015	<u>Robertsport</u> : Began with construction in Robertsport (Pipeline Extension) and included in Construction Monthly Reports to USAID since January 2014. <u>Sanniquellie</u> : Will depend on construction schedule for CIP. <u>Voinjama</u> : Will depend on construction schedule for CIP.
5	Final Acceptance	April 30, 2013 (Short-Term); February 28, 2013 (Medium-Term)	Only Robertsport Pipeline dates can be realistically estimated (expected Q2 FY15). All other construction (mini-systems and CIP) are dependent on procurement schedule which is uncertain. ST and LT are no longer relevant.

¹ Tetra Tech will be submitting a request for modifications to contract deliverables dates in accordance with USAID comments and revisions to Year 4 Work Plan given changes in project direction and factors outside Tetra Tech's control.

Task 5: Transitional Management of Water Supply Improvements			
1	Local Management Entity (LME) Business Plans (includes specific capacity building/training)	February 28, 2013 (Short-Term); May 31, 2013 (Long-Term)	Under the agreed institutional framework, business plan development is the responsibility of each Outstation. The Robertsport Business Plan was submitted to USAID in August 2014. The capacity building/training plan was submitted separately on April 21, 2014 under the Final Capacity Building Plan.
2	Sustainability Monitoring Plan (Financial and Operational)	March 31, 2013 (Short-Term and Long-Term)	The Sustainability Monitoring Plan and Reporting Template were submitted to USAID on April 15, 2014.
3	Reports from monthly Feedback / Evaluation Meetings	Monthly, starting April 30, 2013	<u>Robertsport</u> is reporting monthly on the treatment facility and will be extended to the kiosk operation from the pipeline extension when operational. <u>Voinjama & Sanniquellie</u> reports will begin with mini systems operation (if constructed) or CIP.
4	Sustainability Monitoring Reports (includes M&E data and roll up from feedback/evaluation meetings) Monthly	Monthly, starting April 30, 2013	<u>Robertsport</u> is reporting monthly on the treatment facility and will be extended to the kiosk operation from the pipeline extension when operational. <u>Voinjama & Sanniquellie</u> reports will begin with mini systems operation (if constructed) or CIP.
5	Operator Audit Reports Biannually	Biannually, starting April 30, 2013	Initially limited to <u>Robertsport</u> . Audit shall be an independent audit of monthly reports.
Task 6: Capacity Building			
1	Final Capacity Building Plan, corresponding with MOUs	February 28, 2013	Delayed due to challenges in finalizing the signature of the LWSC-Cities MOUs which was a prerequisite. Final Capacity Building Plan submitted to USAID April 17, 2014.
2	Capacity Certification Report for FAA 611(e)	January 31, 2013 (Short-Term); October 31, 2013 (Medium-Term)	LMWP provided text to support USAID's capacity certification report in December 2013, and provided continuing support in the form of additional data and justification over the following months until it was approved by USAID in July 2014.

5.0 RESULTS REPORTING²

TABLE 5.1. LMWP YEAR 3/ANNUAL INDICATOR RESULTS TABLE³

Performance Indicator	Reporting Frequency	Baseline	Target Year 1	Actual Year 1	Target Year 2	Actual Year 2	Target Year 3	Actual Year 3	Target Year 4	Actual Year 4	LOP Actual
LMWP Key Objective: Locally managed, financially and technically sustained, regular and affordable clean water supply providing access to 90% of the potential customer base											
1. Percent of population using an improved drinking water source	Annual	R: 6% V: 56% S: 59%	N/A	N/A	N/A	N/A	R:19% V: N/A S:N/A	R:33% V:N/A S:N/A	R:90% V:90% S:90%		
1.1 Percent of the population using an improved drinking water source which provides potable water as a result of U.S. Government funding	Annual	R: 0% V: 0% S: 0%	N/A	N/A	N/A	N/A	R:13% V: N/A S:N/A	R:28% V: N/A S:N/A	R:90% V:90% S:90%		
2. Percentage of households using an improved drinking water source	Annual	R: 7% V: 57% S: 58%	N/A	N/A	N/A	N/A		R:29% V:N/A S:N/A	R:90% V:90% S:90%		
3. Number of people receiving improved service quality from existing improved drinking water sources.	Annual	R: 0% V: 0% S: 0%	N/A	N/A	N/A	N/A	N/A	N/A	R: N/A V: 400 S: 2940		
4. Percent of operating expenses covered by customer charges without external subsidies (Utility Operating Ratio)	Annual	0% Mini Yrs 2-4 CIP Yr 4	N/A	N/A	N/A	N/A	R:40% V: N/A S: N/A	R:33% V: N/A S: N/A	R:100% V: 100% S: 100%		
IR 1: Local and national authorities' plans for water supply and sanitation improvements developed											
5. Number of policies, laws, agreements, regulations, or investment agreements (public or private) that promote access to improved water supply and sanitation	Quarterly	0	6	0	6	1	3	3	0		

² Data subject to change based on USAID comments on PMP submitted August 2013. LMWP is reporting on previous indicators and numbering is as listed in recent requests for information from USAID. Revised baselines for water use and access indicators are subject to review and finalization of revised household survey report with USAID.

³ R: Robertsport; V: Voinjama; S: Sanniquellie

Performance Indicator	Reporting Frequency	Baseline	Target Year 1	Actual Year 1	Target Year 2	Actual Year 2	Target Year 3	Actual Year 3	Target Year 4	Actual Year 4	LOP Actual
6.Number of outreach activities implemented to solicit input during planning or inform customers on new procedures or services	Quarterly	0	R:10 V: 10 S: 10 M: 0	R:2 V: 5 S: 2 M: 0	R:15 V: 15 S: 15 M: 0	R:1 V: 2 S: 3 M: 0	R:3 V: 3 S: 3 M: 0	R:2 V: 2 S: 3 M: 3	R: 2 V: 2 S: 2 M: 2		
IR 2: Short- and medium-term water supply infrastructure improvements implemented											
7.Number of people gaining access to an improved drinking water source	Annual	R:0 V: 0 S: 0	N/A	N/A	N/A	N/A	R:263 V: N/A S: N/A	R:392 V: N/A S: N/A	R:3500 V:4684 S:5047		
8.Number of operational large water systems	Annual	R:0 V: 0 S: 0	R:0 V: 0 S: 0	R:0 V: 0 S: 0	R:0 V: 0 S: 0	R:0 V: 0 S: 0	R:0 V: 0 S: 0	R: N/A V: N/A S: N/A	R:1 V: 1 S: 1		
9.Number of operational mini water systems	Annual	R:0 V: 0 S: 0	R:0 V: 0 S: 0	R:0 V: 0 S: 0	R:1 V: 0 S: 0	R:1 V: 0 S: 0	R:0 V: 2 S: 2	R: N/A V: N/A S: N/A	R: 0 V: 0 S: 0		
IR 3: National and local capacity is sustainably planned, operated, and maintained re-established water improvements											
10.Number of persons trained (including water utility management, operations, regulation, and oversight)	Quarterly	0	0	0	10	8	15	131	100		
11.Number of monthly monitoring reports submitted by LSCs	Quarterly	R:0 V: 0 S: 0	R:0 V: 0 S: 0	R:0 V: 0 S: 0	R:0 V: 0 S: 0	R:0 V: 2 S: 3	R:12 V: 6 S: 6	R:4 V: 3 S: 5	R:12 V: 12 S: 12		
12. Number of procedural manuals developed	Quarterly	0	0	0	4	3	3	4	1		
13. Number of Outstations with updated billing system software adopted and used by LWSC	Annual	0	0	0	0	0	0	0	3		
14.Water Utility Capacity Building Score (based on Water Utility Capacity Building Tool)	Quarterly	0	N/A	N/A	N/A	N/A	TBD	N/A	TBD		

6.0 CHALLENGES, OPPORTUNITIES, AND RECOMMENDATIONS

6.1 EBOLA EPIDEMIC OUTBREAK

The Ebola virus outbreak is impacting LMWP's ability to host group meetings (including training events and workshops) and has resulted in curtailment of staff travel to Voinjama and Sanniquellie. Fortunately, because Grand Cape Mount County has been relatively unaffected by the virus outbreak, the project has been able to proceed with construction of the Robertsport Pipeline Extension, and is also planning to conduct capacity building activities there as planned.

Ancillary challenges related to the virus outbreak include stress on LMWP staff and their families, some of whom have been directly impacted by the crisis as a result of a friend or relative contracting the virus or being impacted by associated civil unrest and curtailment of civil liberties by GoL. The African Development Bank (AfDB) project to redevelop the LWSC outstations in Kakata, Zwedru and Buchanan suspended most construction activities and only their in-house LWSC staff member assigned to the project remains in place.

Since GoL ordered non-essential staff to work remotely, LWSC's already limited capacity was reduced further. This resulted in increased delays on follow-up re land acquisition, reviews of project documents, and other activities. Follow up on the land deeding process has been made even more challenging by the restricted travel possibilities to the project cities.

LMWP has also concerns that the Ebola virus outbreak could mean that fewer international construction firms may bid on the CIP procurement, and that those who do bid may escalate their prices to mitigate perceived risk related to working in Liberia in the midst or aftermath of the epidemic.

Despite these challenges and concerns, LMWP has been proactively taking mitigating measures to allow the project to continue making progress toward our project goals, while minimizing health and safety risks to our staff and operating within the new constraints. These mitigating measures will continue and additional mitigating measures will be added as required. Mitigating measures undertaken by the project included:

- **Information Campaigns.** Our active information campaigns seek to educate all staff about the Ebola virus, including prevention and available resources. Ebola is a priority topic for weekly staff meetings.
- **In-Country Travel.** All in-country travel must be approved in advance by the COP or his designee on a case-by-case basis. While traveling, travelers must check in with their primary office daily and report any health and safety incidents encountered. Employees are authorized to refuse to travel to a specific location based on their own health and safety concerns as long as these reasons are documented and considered reasonable. The COP will ban travel and suspend work activities in any

community determined to be too high risk due to high incidence of Ebola or for security concerns, notably potential for civil unrest.

- **International Travel.** All travel to Liberia by home office staff and consultants requires corporate health and safety clearance. All traveling US and Third Country National (TCN) staff and dependents are required to notify headquarters for tracking purposes and so returning travelers can be briefed on any significant health and safety issue that may have transpired during their absence from the country.
- **Evacuation Contingency Plan.** An evacuation contingency plan has been developed and submitted to the Mission for approval. The plan outlines steps for different potential scenarios, and ‘triggers’ for actions.
- **Events and Workshops.** Our projects are giving careful consideration to the necessity of hosting and attending events such as workshops, especially when they involve the traveling and gathering of large groups of people. Alternatives are being considered per the discretion of COPs in consultation with USAID. Routine work meetings with clients and stakeholders are being held as long as organizers and attendees take essential health related precautions as recommended by professional health authorities such as CDC, Government of Liberia (GoL), MoHSW and WHO.
- **Temperature Screening.** All LMWP staff at the Monrovia office are required to have their temperature taken upon arrival at the office. If they are febrile, they are required to work remotely and are encouraged to seek medical attention.
- **Alternative Medical Services.** Tetra Tech contracted with a private medical services firm to provide medical services for staff who are unable or unwilling to visit local clinics due to them being closed or potentially unsafe. This has been added as a fringe benefit to all staff.
- **Working Remotely.** Staff are being asked to stay home when sick, and the COP is approving working from home when feasible.
- **Health and Safety Planning.** LMWP ensured that all health and safety plans, phone trees and contact lists are fully up-to-date and that satellite phones were tested.
- **Health Supplies.** LMWP is ensuring availability of updated first aid kits and cleaning supplies. These will continue to be monitored to make sure they are in adequate supply.

6.2 LWSC LACK OF CAPACITY AND HUMAN RESOURCES

Though LMWP is working to increase LWSC capacity in all aspects of utility management, this endeavor has been made difficult by LWSC’s inability to provide the “bodies” to train. This is a serious challenge that LMWP has been facing and will continue to face and will determine to a great extent our ability to reach the project’s contractual objectives and overall goals.

While LMWP has been able to refurbish the Robertsport WTP and establish a serving station, the project has not been able to fully entrust management of the facilities to LWSC due to a lack of staff. The Officer-in-Charge that was detached to Robertsport had to be reassigned to other duties (White Plains) due to shortage of staff. Though we have been promised by LWSC that this was a temporary assignment, LWSC has not given any indications that the OIC would be retransferred to Robertsport. This has meant a reversion or pausing of previous progress related to training and increasing LWSC’s ownership of system operations. Specifically, LMWP has worked closely with the OIC to develop the business plan for the Outstation which was formally presented at the TWG meeting in July 2014. The business plan is a central tool in this project sustainability infrastructure which was painstakingly developed through the TWG and adopted by the LSCs. If the Robertsport OIC who has undergone extensive classroom and on the job training is not re-instated it could potentially pose risks to successful operation of the pipeline extension.

LMWP has had to offer the hiring of Engineers to serve as LWSC construction phase field supervisors. It was related during the Y3 work planning session by LWSC that they did not have the capacity to hire

additional staff for the construction phase. LMWP has hired an Engineer who will be seconded to LWSC and will serve in Robertsport to oversee and certify works for LWSC.

Despite commitments made through MOUs to provide the requisite staff and resources to support the realization of the project objectives, these commitments are taking time to be translated into deeds.

6.2.1 LAND ACQUISITION

LMWP continues to coordinate and meet with LWSC on the land acquisition for the CIP kiosks. Due to the Ebola situation the process has been further slowed and is pending LWSC availability. LMWP will continue to communicate with LWSC and assess ways to assist. It has been related to LWSC that inability to secure the requisite land use approvals or acquisition may impact the award of the CIP construction contract.

6.2.2 LIMITED LOCAL CAPACITY (FINANCIAL AND TECHNICAL):

Significant delays were experienced on the Robertsport Pipeline Extension project primarily due to the lengthy bank loan approval and material procurement process which were mostly due to the contractor's limited financial capacity and weak private local banking sector. Additionally the local capacity of construction contractors to complete water works is very limited in Liberia and requires significant oversight and support during all phases of the project life cycle. Future construction works, even the CIP that is anticipated to be managed by an International firm, will require local subcontractors. The risk for schedule delays, poor quality workmanship and cost implications during the CIP may be transferred to the construction contractor but will remain an issue for LMWP/USAID.

6.2.3 OVERALL PROJECT SCHEDULE IMPACT

LMWP risks running out of time if there are delays in advertising and awarding the construction phase of the CIP. It is anticipated that the CIP construction phase will take 20-24 months followed by a 12 month operational oversight phase. This estimated three-year period of performance for both the construction and operational oversight phases is anticipated to extend beyond the end of the 2 year optional LMWP contract (September 2017). Additionally, a majority of the work will be done during the dry season and to maximize the dry seasons between now and September 2017, it is critical to award construction by mid-2015 so that the contractor can mobilize and move materials to site before the start of the dry season around Oct 2015. The below schedule is based on the LMWP Year 4 work plan.

TABLE 6.1. SCHEDULE BASED ON YEAR 4 WORK PLAN

March 2015	April – June 2015	July 2015	July 2015 – July 2017	April – July 2017	July 2017 – July 2018
Advertise CIP (USAID)	Bid Phase, Negotiations, Approval (USAID)	Notice to Proceed (USAID)	Construction Phase (final period of performance will be based on the contractor's bid)	Transition to Operations Phase	Operations Phase

7.0 DETAILED ACTIVITIES AND STATUS OF IMPLEMENTATION SCHEDULE

The completion status of accomplishments versus Year 3 Work Plan is provided in the following sections by Task. Note that Task 1 (Situational Analysis [SA]) was completed in Project Year 1 and formed the basis for Master Planning and essentially all subsequent work. Task 2 (Plans for Staged Water Supply and Sanitation Infrastructure Improvements) was completed in Year 2. All activities for Task 3 (Institutional Framework for Water Provision) were completed in Year 3, except for the signature of the MOUs between LWSC and the Project Cities which is described under Task 5 because it relates to details of management arrangements, as opposed to the Institutional Framework which was agreed-to via the LMWP-LWSC MOU.

7.3 TASK 4 – CAPITAL WORKS

Activities completed in Year 3 under Task 4 included the bidding, material procurement and initial construction works on the Robertsport Pipeline Extension Project; design and bid phase for the Mini-System Construction Services and material procurement; final design and comment review, preliminary engineering tasks and preparation for the construction phase of the Capital Improvement Project. LMWP conducted engineering related trainings and workshops to prepare staff and LWSC for the construction phase of the project.

7.3.1 PRELIMINARY ENGINEERING TASKS

Construction Management & Health and Safety Program

In Q1 of Year 3, LMWP completed a Construction Management Program (CMP) that defines the roles and responsibilities of the Construction Management Team, reporting requirements and document control expectations and quality assurance and oversight approach. Samples of daily, weekly reports, QA and testing forms, document control checklists, etc. were developed and are included in the CMP. The manual includes an educational portion to provide background of the various elements of the project life cycle. The CMP will be a living document that will be updated throughout the project with lessons learned and improved / streamlined reporting templates. A presentation of the contents of the Construction Management Program was given to the LMWP Engineers and Walker Richard Engineers in October 2013 in an effort to prepare for the Construction Phase.

Part of the Construction Management Program is a detailed LMWP Health & Safety Program which was drafted in early 2014 specific to LMWP activities. Health & Safety (H&S) training was included in the

Construction Management training on June 4, 2014 while a separate, more focused H&S specific to water treatment plant operations was conducted in early June 6, 2014.

Geotechnical Investigations (Longman)

Longman Engineering Services was hired through a competitive bid process by LMWP in September 2013 to conduct geotechnical investigations for the CIP design. Longman began the geotechnical investigations on October 2014 through the excavation of 10 foot deep trial pits in all three cities. Soil samples were sent to MPW soil laboratory and the preliminary results provided to LMWP to be incorporated with the CIP drawings in early November.

Geotechnical investigations continued on November 25 when Longman mobilized to Robertsport with their drill rig. They conducted soil borings for approximately one week in each of the three cities and LMWP provided oversight during this



process. Longman completed soil borings on December 24, 2013. Longman Engineering Services completed the geotechnical reports; the Robertsport geotechnical report was submitted April 30 and the Sanniquellie and Voinjama reports were submitted in the first week of May. LMWP structural engineers reviewed the recommendations and soil-bearing-capacity findings for the three cities and made minor revisions to the battery house footings. A final report was submitted on June 30.

Surveying Service (GMAPS)

GMAPS was hired through a competitive bid process by LMWP to support property surveys and assessing land required for the solar fields. LMWP prepared solicitation documents and advertised for Surveyor Services in December 2013. The bid evaluation and negotiations were completed in January and the award made to GMAPS, a Liberian surveying company, in early February 2014.

Property and Solar Limits Survey

GMAPS staked the limits of the proposed solar land required in the CIPs. Stakeout of the solar land area was completed in Robertsport and Sanniquellie during the month of February. During the staking of the solar land area in Robertsport, it was determined that a portion of the solar array was on the border of an existing swamp. LMWP re-aligned the solar arrays to fit outside the swamp. Two new benchmarks were established at the WTP site because the original benchmarks had been damaged.

In each location, the proposed solar land appeared to be within Government owned land. A more detailed property survey and land deed will be conducted in April. LMWP will coordinate the land deed and property survey with LWSC, who retains overall responsibility for establishing ownership.

To confirm LWSC property at the WTP and for other structures belonging to LWSC, a property survey was initiated and conducted by GMAPS and the local County Surveyor in the three cities. Sanniquellie and Voinjama property limits at the LWSC WTP and elevated tower were identified and surveyed. The final property limits resulted in modification to the Voinjama solar array layout to ensure proposed items are within LWSC property. The Robertsport LWSC property survey is on hold pending the land commission committee that is supposed to meet and confirm this activity. LMWP met with LWSC's Hne Coleman who is taking the lead on this coordination.



GMAP surveying solar field limits and conducting property survey at the Sanniquellie and Voinjama WTP (LMWP, Feb 2014)

Stream Flow Measurements

LMWP recorded stream flow measurements and rainfall data at the three cities during Year 3. Flow measurements are intended to collect approximate stream or river flow at the three surface water sources to monitor low flow dry season conditions. Trainings and preparation of the field staff to take manual, quality readings were conducted in Year 3 Q3 in the three cities with the LMWP site engineers. Different methods were chosen for each city depending on the flow conditions and the control structures in the city. Stream flow data collection had occurred periodically earlier in the project; in Year 3 LMWP established more regular stream flow measurements. Rainfall data for all three cities was collected through the use of rain gauges installed at the site office or at the WTP.

Robertsport

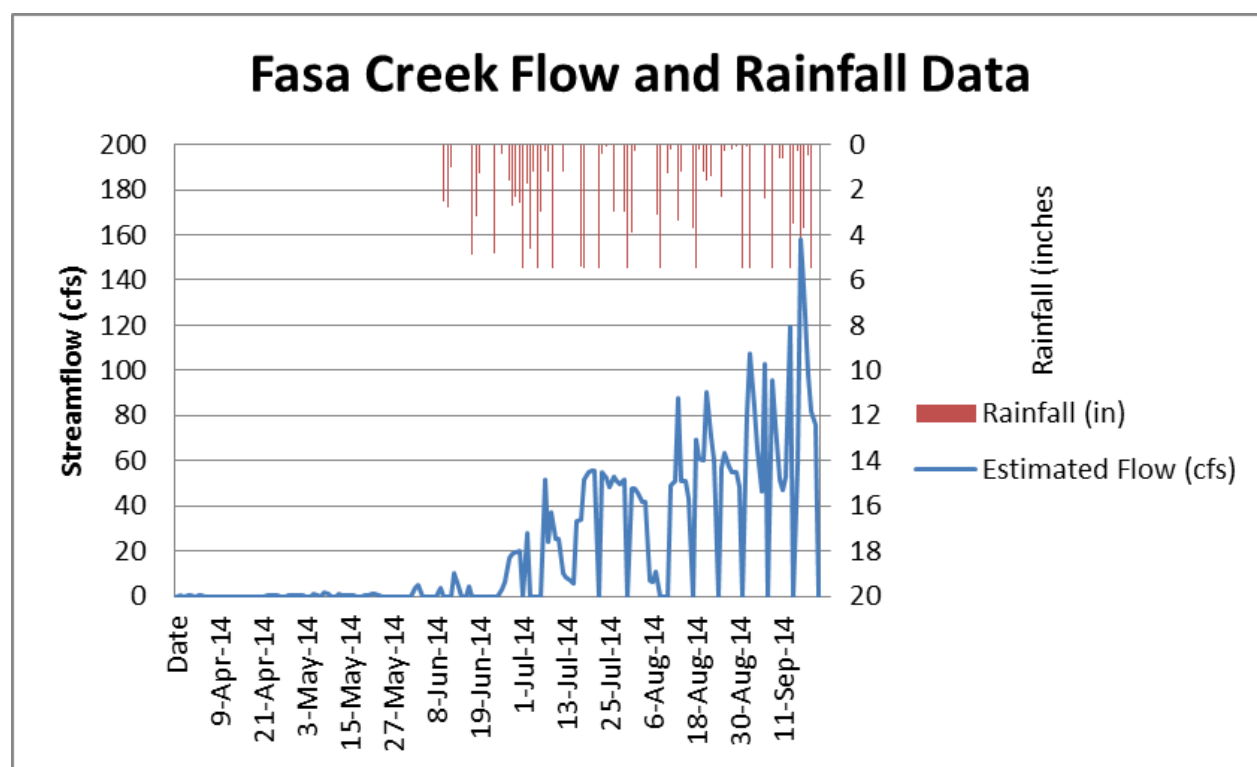


River control structures in Robertsport (left), Sanniquellie (middle) and Voinjama (right)

In Robertsport, stream flow measurements began during the height of the dry season to monitor low flow conditions in Fasa Creek. Two stream methods were conducted in Robertsport depending on the flow

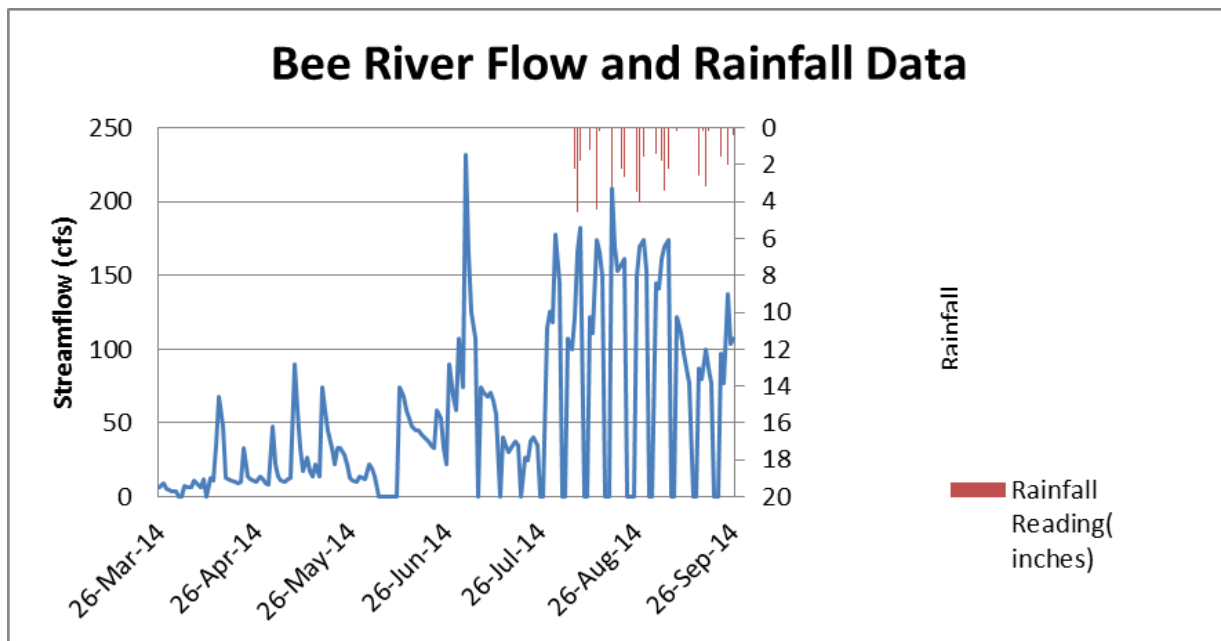
conditions in attempts to obtain the most accurate readings. Weir Method included taking measurements of the height of flow over the crest of the concrete weir at the intake. Due to significant cracks and leakage under the concrete weir, flow calculations are approximate. Stream Discharge Method was used during extreme low flow conditions and more recently during rainy season high flow conditions when the Fasa Creek intake was inaccessible. For the Stream Discharge Method, an appropriate cross section of the stream was identified, measured and the flow velocity measured using a velocity probe. Flow was calculated using cross sectional area (A) and flow velocity (V) or $Q=VA$. All stream flow measurements are approximate due to the methods used to capture the information and condition of the concrete weir. The intent was to specifically monitor the low flow conditions in Fasa Creek during the dry season.

Note: flow that is registered as 0 cfs is due to no measurement taken that day. Measurements taken during April – June were not taken in a consistent manner due to working out “wrinkles” in the stream flow measurement plan. Additionally no measurements were taken during the weekend due to the site engineer not working. The key outcome from the stream flow measurements demonstrated that last year the low flow condition in Robertsport was apparently similar to the record low flow conditions.



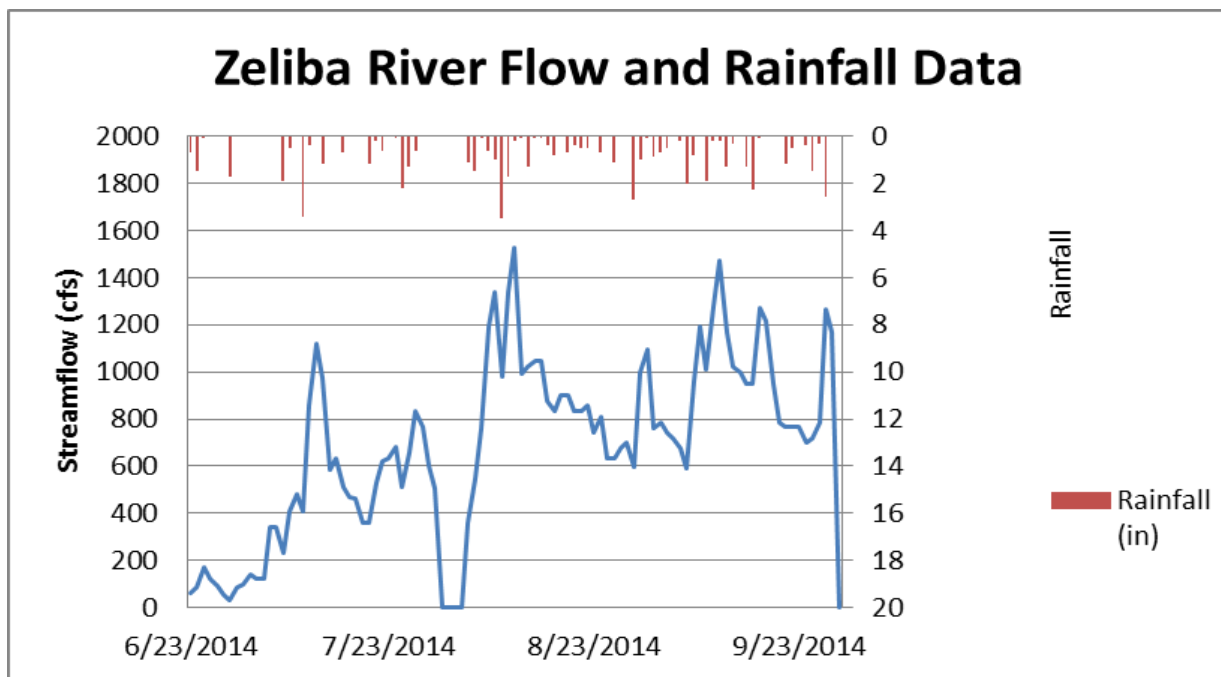
Sanniquellie

Stream flow in Sanniquellie was calculated using the Weir Method at the river intake control structure along the Bee River. There are two portions of the river intake control structure, one is the adjustable wooden weir and the second is the concrete weir (*see image*). During low flow, the height of flow over the wooden weir was measured and river flow was determined using the weir method. As flow overtops the crest of the concrete weir, the calculation was adjusted to include the full length of the concrete weir. Stream flow calculations at the Bee River intake control structure are approximate due to a hole in the concrete weir. The flow measurements are intended to give a rough order magnitude of flow throughout the year.



Voinjama

Stream flow in Voinjama followed a similar approach to that done in Sanniquellie, the main difference was the river intake control structure configuration which includes three bays with adjustable wood weirs. The height of flow over the top of the wood weir was taken however during the dry season flow was low and flowing between the wooden stop logs. The velocity probe was used to determine approximate dry season flow at a downstream cross section of the river.



For all three cities, LMWP has coordinated with Liberia Hydrological Services and develop an MOU that will be signed between LWSC and LHS for the long term stream gauging; signature of the MOU is

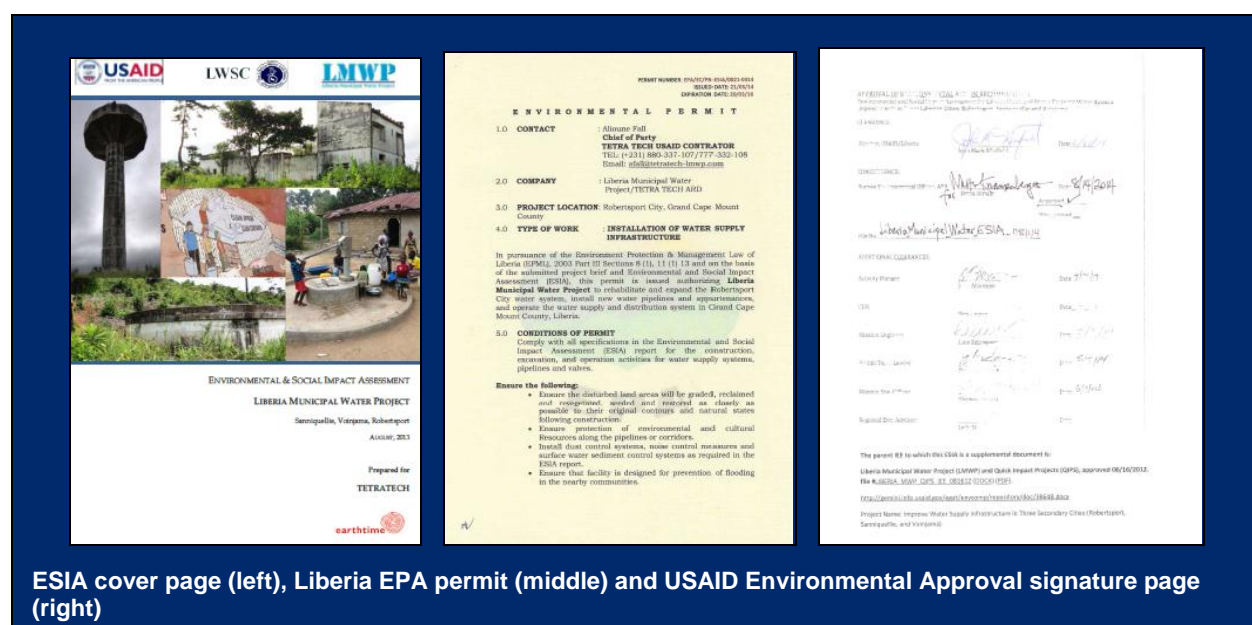
anticipated in early Year 4. LMWP will support LHS through procurement of low tech staff gauges in Year 4 and high tech stream flow data collection during the CIP.

Environmental

LMWP hired a Liberian subcontractor, Earthtime, to complete the Liberia EPA permit process and assisting LMWP in obtaining the EPA permits for the proposed construction and operations phases. As part of the process per Liberia EPA regulations, a detailed Environmental Social Impact Assessment (ESIA) was researched and drafted by Earthtime, the outcome of the ESIA granted LMWP construction and operations permits from EPA. All EPA permits have been obtained for the project and will cover construction activities from the issue date of March 21, 2014 through March, 20, 2016 after which LMWP will be required to renew the permit. LMWP will monitor the proper implementation of the environmental requirements.

Approval for allowing the Robertsport Pipeline Extension EPA approval to be subsumed by the CIP permit was granted by the Liberia EPA on September 23. The initial EPA permit expired in August 2014 and the EPA will allow the current Work to be included under the CIP permit.

USAID environmental office approved the ESIA on August 15, 2014. LMWP understands that all environmental approvals are in place for the construction and operations of the CIP in the three cities.



ESIA cover page (left), Liberia EPA permit (middle) and USAID Environmental Approval signature page (right)

Establishing Site Offices

With support from LMWP, the LWSC Robertsport Water Treatment Plant office was fully furnished and became operational in Year 3, providing a working environment for plant operators.

Renovation works have also been completed on the LMWP office premises in Robertsport, which will be staffed by LMWP's local field engineer in early October 2014 to oversee the pipeline extension project.

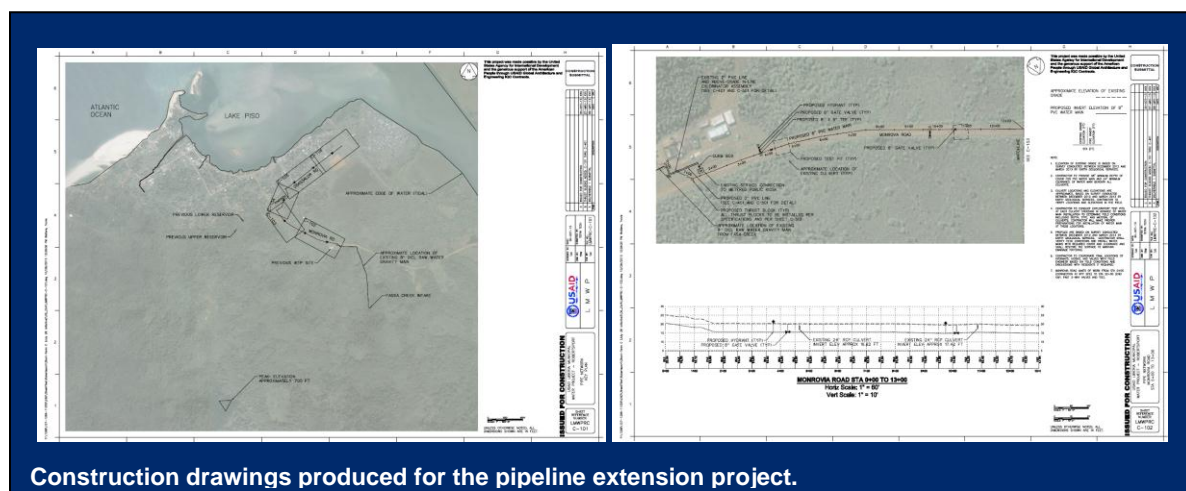
LMWP plans to staff up the field offices in Sanniquellie and Voinjama as the CIP construction phase nears. During Year 3, LMWP co-located with IWASH in Sanniquellie and Voinjama until the lease was transferred to LMWP.

7.3.2 ROBERTSPORT PIPELINE EXTENSION PROJECT

Given uncertainty regarding the procurement mechanism for immediate works funded by USAID/Liberia, LMWP reached out to the USAID/ Sustainable Water Supply in Africa (SUWASA) program to provide funding via its Small Investment Program (SIP) to fast-track a portion of the proposed Robertsport Pipeline Extension Project. Funds are being used to construct a portion of the LMWP-proposed short term improvements and also to provide technical assistance related to establishment of cost recovery tariffs. The proposed project includes a pipeline extension of approximately five thousand feet from the existing treatment facility to the more densely populated areas of Robertsport, ending near the soccer stadium and youth center adjacent to the Fanti Town neighborhood. Three additional water kiosks will be installed.

After several rounds of tendering and receipt of multiple non-responsive bids or bids from unqualified applicants, negotiations with a construction subcontractor was initiated in Y2 Q4, a draft contract developed, and request to subcontract was submitted to USAID on October 3, 2013. Approval to award the work to Pump and Tank Maintenance Company Joint Venture with Atlantic Engineering & Construction Company (Pump and Tank) was granted on October 28, 2013. Two outstanding items prevented the full execution of the contract; one was unresolved land issues that LWSC was finalizing and a second regarding outstanding construction drawing approval by LWSC. LWSC stamped and signed a copy of the Robertsport Pipeline Extension Project plans on November 18, 2013 providing official approval of the plans. Additionally, a “sign-off” on the plans from the Ministry of Public Works indicating their acceptance of the above ground items was provided to LMWP by LWSC.

On November 13, 2013, Pump and Tank submitted their Performance Bond to LMWP which was approved. On November 26, LMWP, LWSC and Pump and Tank walked along the proposed pipeline extension alignment and visited the Water Treatment Plant in Robertsport to provide Pump and Tank with an overview of the work, identify kiosk locations and finalize the alignment of the proposed water main. Pump and Tank signed the Robertsport Pipeline Extension Project contract on November 27, 2013; LMWP advised Pump and Tank that Tetra Tech/SUWASA was waiting for LWSC to provide land documents before fully executing the contract.



Additionally on the November 26th joint LMWP/LWSC team visit to Robertsport, a meeting was held with the Grand Cape Mount Superintendent with an attempt to finalize outstanding land issues. During the meeting LWSC indicated that all land issues would be resolved through the signature of notarized statements by land owners. LWSC indicated that these signatures would be completed by November 28, 2013; the finalized land documents were collected and provided to the LWSC notary on December 18.

On December 5, 2013, LMWP met with Dr. Issiah Braimah, the Project Director of the World Bank Fishery Project (WARFP) with the intent to coordinate the Robertsport water main extension and the upcoming Capital Improvement Project (CIP) with the Fishery Project. After reviewing the Robertsport Pipeline Extension Project plans, Dr. Braimah was content with the plans and water main extension plans to the fishery site. Both LMWP and WARFP are on a similar construction schedule and water from the Robertsport treatment plant should be available by the time the fishery site begins operations in 2015.

Once the land issue was resolved, a contract with Pump and Tank Maintenance Company Joint Venture with Atlantic Engineer and Construction Company was fully executed on Dec 20, 2013, resulting in an official Period of Performance start date of **Dec 27, 2013**.

A pre-construction meeting was held with Pump and Tank on January 6, 2014 at the LMWP office to discuss deliverables, work and procurement plan and other project details. On January 7, LMWP and LWSC lead a kick-off meeting in Robertsport that identified the final locations of the kiosks; those present at the kickoff meeting included the City Mayor, LWSC, LSC, LMWP and Pump and Tank. Following the kick-off meeting, Contractor mobilization and work on the kiosks and their warehouse began.

On January 16, a ground breaking ceremony was held in Robertsport for the Pipeline Extension Project. Dignitaries present included the US Ambassador, USAID Global Water Coordinator, Liberia Water Sewer Corporation Managing Director and representatives from Robertsport, Sanniquellie and Voinjama. Construction of the SUWASA funded Robertsport Pipeline Extension kicked off in January with work beginning on three public kiosks; the kiosk construction was completed in March with only the connection to the water supply outstanding.



As a result of limited land availability, the proximity between two proposed kiosks was greatly reduced. Therefore, LMWP agreed with LWSC to eliminate one of the proposed kiosks, reducing the total number of kiosks to three under the Robertsport Pipeline Extension Project.

Throughout the month of January, LMWP received shop drawings for materials that Pump and Tank proposed to procure from the United States of America. The shop drawings are detailed specifications and descriptions for materials such as pipes, fittings, valves and hydrants that Pump and Tank will furnish and install. The shop drawings were reviewed and LMWP responses and approvals were sent to Pump and Tank mid-January. Additionally, LMWP asked LWSC to provide comments on the shop drawings and since no comments were received within three days, the approval process continued in order not to delay

the Contractor and the procurement process. In the field, Pump and Tank constructed the three public kiosks between January and March 2014.



Kiosk construction in Robertsport (LMWP, Jan & March 2014)

Significant delays were incurred by Pump and Tank during the procurement process. First, Pump and Tank loan application with LBDI Bank for \$90,000 took approximately two months to be approved, from January to February 2014. Following the loan approval, Pump and Tank applied for a Letter of Credit (LC) that was required by Mariflow Industries, the vendor supplying the pipeline materials from Florida USA. On March 19, Mariflow provided Pump and Tank with their amendments to the delivery date and total cost to the Letter of Credit which required additional action by the bank in Liberia. The LC was finally approved and Mariflow acknowledged receipt of the LC on March 25, 2014. Delays incurred during the LC process were due to “red flags” raised during review and approval of banking transactions from Liberia. After the Letter of Credit was approved, manufacturing of the materials began in early April. The materials were loaded on a ship in Florida and set sail for Liberia on May 23rd.

In anticipation of possible delays early on in the project, LMWP was pro-active and provided supporting documents and letters to Pump and Tank encouraging them to begin the loan process in December prior to contract award. Additionally, LMWP drafted and provided Pump and Tank with a Duty Free Status letter to be used for the customs clearance of the materials. Despite these early attempts to expedite the process, pre-award documents were only allowed for a pre-approval of the loan and the actual loan process only began after the contract was signed.

The materials arrived in Liberia on August 9, 2014 and upon customs clearance and negotiating Ebola travel restrictions, the materials were transported to Robertsport on August 27. LMWP procured two 40’ shipping containers as added security due to the uncertainty with the Ebola situation. The containers are



Offloading Robertsport Pipeline Extension Project materials (LMWP, August 2014)

part of the CIP long term storage plan for LWSC WTP tools and materials and will be relocated to the WTP site during the CIP.

Materials are being stored in the two 40' shipping containers. Two guards, one from LMWP and the other from Pump and Tank are posted at the location to provided security to the containers and materials. All material on the inventory list were delivered and stored on site.

During the Robertsport pipeline material procurement process, LMWP revised and improved upon the Electronic Program Observation Reporting and Tracking (ePORT) daily report template that will be used by the site engineers during the Robertsport Pipeline Extension and future CIP construction works. More detail was added to the report template and the format was streamlined to allow comprehensive yet efficient field documentation of daily activities, quality assurance, construction performance, project progress, and other project-related activities that will be monitored on a daily basis

Contract administration tasks conducted by LMWP for the Robertsport Pipeline Extension Project during Year 3 included progress payment review and processing, monitoring and revising project schedule, no-cost extension modification to the contract completion date, and review and response to claims submitted by Pump and Tank. The current completion date for the project is through November 2014 and LMWP will consider revisions to Pump and Tank's contact upon receipt of a formal request for a second no-cost extension.

TABLE 7.1. ROBERTSPORT PIPELINE EXTENSION CONTRACT SUMMARY

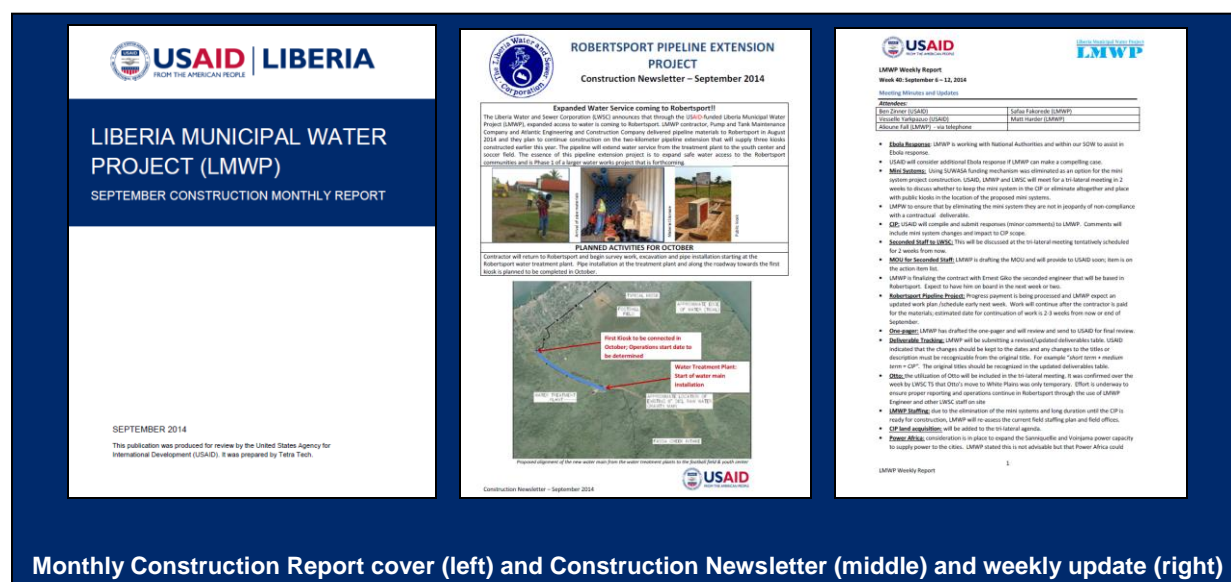
Contract Value	\$ 223,016	<i>Note</i>
Date	9/30/2014	
Amount Paid to Date	\$ [REDACTED]	
Retention Held to Date	\$ [REDACTED]	
Amount Remaining To Be Paid	\$ [REDACTED]	
Contract Start Date	12/27/2013	
Contract End Date	10/15/2014	<i>mod 1</i>
Days to Completion	15	
% Days Completed	95%	
% BOQ Paid (include Retention)	59%	

TABLE 7.2. ROBERTSPORT PIPELINE EXTENSION PROJECT PROGRESS PAYMENT SUMMARY

Payment Number	Date	Value of Work Completed	Retention Held	Amount To Be Paid (this payment)	Total Paid To Date (Including this Payment)	Total Remaining to be Paid
1	1/27/2014	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2	6/18/2014	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
3	9/8/2014	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

LMWP began Monthly Construction Reports on January 2014 recording project status on all Task 4 design, procurement and construction activities. This report is a project deliverable. The LMWP Engineering Department attends regular USAID meetings to provide project updates and capture meeting minutes while discussing upcoming design, procurement and construction activities; a weekly meeting minutes, action items and status report is circulated.

LMWP Engineering Department drafted a one-page construction newsletter in the end of September 2014 that, pending LWSC approval, will be circulated in early October and subsequently on a monthly basis to update the community on construction status and the upcoming activities and expectations on the project.



7.3.3 MINI-SYSTEMS

After many months of pursuing a Fixed Amount Reimbursable Agreement (FARA) contracting agreement with LWSC, it was concluded on December 5, 2013 that LWSC was not capable or interested in a FARA. A new direction was taken for the Mini-System construction through a direct USAID contract with a local construction company and LMWP was directed by USAID to procure the long lead, out-of-country items.

USAID directed LMWP to prepare the RFP (Low Cost Technically Acceptable solicitation documents) for a total of four site-specific Mini-Systems on December 5, 2013. Further clarification was provided during the weekly USAID meeting on December 12 and LMWP began preparations of two additional site-specific Mini-System drawing packages. The final bid package included site specific drawings, RFP Solicitation documents and specifications for four Mini-Systems; two each in Voinjama and Sanniquellie would be constructed in order to maximize impact while remaining under \$250,000.

LMWP submitted final site drawings for each of the four Mini-Systems on January 20, 2014 and provided USAID with a potential bidder's list of Liberian construction contractors. LMWP completed a draft of the RFQ for the material procurement in January 2014 and in February, USAID advertised the construction services RFP. An ongoing activity during the tendering process was the land acquisition, led by LWSC.

Three parallel activities were conducted on the Mini-System project preparing for the construction phase:

1. **Material Procurement:** LMWP procurement process of long lead time and out-of-country materials.
2. **Construction Services Solicitation:** Bid phase led by USAID, with LMWP support, to hire construction contractors to build the four mini-systems.
3. **Land Acquisition:** Process led by LWSC, with LMWP support, to secure the land required for the proposed mini-systems.

Material Procurement

LMWP prepared an RFP for the procurement of out-of-country materials and the RFP was advertised on March 3 for Mini-System materials in the two cities. Items included in the RFP included:

1. Elevated Steel Tanks
2. Storm Resistant Louvers
3. Chemical Metering Pumps
4. Centrifugal Submersible Pumps
5. Solar Power Systems

The RFP was sent to a list of international vendors that Tetra Tech has prior experience with. An RFP questions submission deadline was set for March 10 and the bid submission deadline March 17. LMWP conducted bid evaluations and determined that the tanks, chemical metering pumps and submersible pumps required a re-bid due to unresponsive bids. A second round of bidding was conducted followed by final technical evaluation, negotiations and award of the contracts made for the louvers and submersible pumps in June 2014. For the other items, USAID approval and concurrence was requested. A Request for Waiver was submitted to USAID on May 29, 2014 for approval for the Milton Roy Chemical Metering pump, which is being supplied from Europe. The cost is above the \$25,000 threshold. A Request for Consent to award the solar-power system to Union Strong was submitted to USAID on May 29. USAID requested additional clarification to the waiver, which LMWP provided on June 18. At the time, the elevated steel tank price was below the waiver threshold, however it was later determined that the price quoted was only for one tank and the revised price reached a level that required a waiver and a request for waiver was submitted to USAID.

A summary of procurement for mini-systems after bid evaluation:

1. Elevated Steel Tanks: contract signed/waiver submitted to USAID for Videx Tanks (\$40,523)
2. Storm Resistant Louvers: contract signed with Construction Services/DSW Architects (\$4,975)
3. Chemical Metering Pumps: waiver request submitted to USAID for award to Milton Roy (\$40,392)
4. Centrifugal Submersible Pumps: contract signed with Union Strong (\$15,304)
5. Solar Power Systems: Request for Consent submitted to USAID for award to Union Strong (\$234,448)

USAID directed LMWP during the July 31 meeting to separate material procurement between the two cities (Sanniquellie and Voinjama) since it was unlikely to award both cities together. Furthermore, during the end of July, all procurement was put on hold per USAID direction due to the Ebola situation. An exception was given to the louver and submersible pump procurement which was already ongoing.

The Mini-System project was canceled by USAID in August 2014 for immediate procurement. It may be considered for inclusion in the CIP as a first phase.

TABLE 7.3. SUMMARY OF THE MINI-SYSTEM MATERIAL PROCUREMENT AS OF SEPT 2014

Lot Description	Contract Status with Vendor	Payment Status	Status of Materials	Action To Be Taken	Material Costs (USD\$) *
Elevated Tanks	Signed contract to be cancelled, TBD	None	Not shipped	LMWP to cancel order or use in Robertsport	\$40,523 (cancellation TBD)*
Louvers	Signed / executed	100% paid	At freight forwarding warehouse	Use in CIP at WTP	\$4,975 *
Chemical Metering Pumps	NA	None	NA	LMWP to cancel order	\$40,392 (to be canceled)
Submersible Pumps	Signed / executed	40% paid	Vendor shipping to Liberia	Use in the CIP	\$15,304
Solar Systems	NA	None	NA	LMWP to cancel order	\$234,448 (to be canceled)
Total					\$60,802 **

**Doesn't include shipping*

*** Includes tank + louvers + sub pumps material costs only*

Construction Solicitation

During the USAID weekly meeting on January 23, LMWP was directed to separate the Mini-System drawings into two packages, one for each of the cities. This direction changed the earlier direction of one package and required the drawings be divided; a decision intended to mitigate concern by LMWP and USAID over a local contractor's ability to construct multiple projects in parallel. USAID also directed LMWP to draft Solicitation documents that would be a Low Cost Technically Acceptable (LCTA) contracting mechanism instead of an RFP.

The two drawing sets were submitted to USAID on February 7, 2014. A second and final review of the plans was conducted by the USAID Engineer and LMWP responded to the all comments and submitted final drawings and Solicitation documents on March 3.

The bidding phase for the Mini-Systems includes two Construction Services Solicitations issued by USAID seeking local construction companies; one contract for each of the two cities will be awarded.

A second and final review of the Mini-System plans were conducted by the USAID Engineer (Aaron Bennett) and submitted to LMWP in early February. LMWP addressed USAID comments on the drawings, specifications, cost estimate, bid schedule and Solicitation documents. LMWP completed and submitted responses to the comments on March 3.

LWSC provided a letter of acceptance on the Mini-System plan to the LMWP and on behalf of MoPW on April 14, 2014.

LMWP printed hardcopies of the Mini-System Bid Documents for potential bidders to collect at the LMWP office and supported USAID during the bidding process. The construction services solicitation was advertised on April 7, followed by a pre-bid meeting on April 14 and a site visit to Sanniquellie and Voinjama on April 16 and 18, respectively. The pre-bid meeting was held at LMWP offices on Payne

Avenue in Monrovia and included the participation of 10 bidders. The pre-bid meeting was led by the LMWP construction project manager, who reviewed the bid package with the potential bidders and representatives of the companies, provided preliminary clarifications on the questions that were raised, and discussed the planned site visits.

For the Mini-System site visits, potential bidders met first on April 16 at Jackie's Guest House in Sanniquellie, where USAID and LMWP led a brief discussion on the planned site-visit activities and reiterated that each bidder must read the solicitation document and prepare their bids according to the requirements. Following the meeting, a visit to each site was conducted. Seven individuals attended the site visit, representing six potential bidders (Envans, Semoh Group, P&T/AECC B-CON Engineering, Habatit Company, and Ammeton Construction). After the Sanniquellie site visit, bidders met on April 18 at the Social Security Guest House in Voinjama, where USAID and LMWP led a similar discussion and site visit with potential bidders. Two individuals attended representing two potential bidders (B-CON Engineering and Semoh Group). LWSC was unable to attend either of the site visits due to other commitments.

A few questions were submitted during the bid phase and LMWP prepared responses and provided for USAID to distribute.

The construction services solicitation deadline was May 5, and LMWP supported USAID in the technical review and recommendations. Due to a lack of USAID contract administration capacity in Liberia, the Mini-System project was canceled in September 2014. During the September 30 trilateral meeting with LWSC, USAID and LMWP it was noted that the Mini-Systems were canceled and their integration to the CIP would consist of a public kiosk. LWSC made no objections to this suggestion.



Mini-System bidder's site visit Sanniquellie (LMWP, April 2014)

Land Approval and Acquisition

Land acquisition for the Mini-Systems was conducted by LWSC with support from LMWP. In order to expedite the process to acquire the land permits, LMWP developed and submitted the requisite draft documents (detailed drawings and site locations) and templates to LWSC to provide guidance in the preparation of the permits.

In April, LMWP traveled with LWSC to Sanniquellie and Voinjama to finalize negotiations with the landowners. LWSC opted to purchase the various plots of land for the mini-systems and have them surveyed and deeded in LWSC name. Property surveys were completed for the mini-systems and the land deed preparation process conducted by the county surveyor and LWSC. LWSC purchased the various plots of lands and also supplied the corner monuments and stones to demarcate the perimeters for the lands.

LWSC completed the purchase of the mini-system land in Voinjama and one of the two sites in Sanniquellie on June 19, 2014. The mini-system lands were acquired at Mango Island and Bonasuah

mini-systems locations for \$500 and \$300, respectively. The county surveyor was responsible to complete the land deed and finalize the transaction in early July, transferring ownership to LWSC.

Similarly, in Voinjama, LWSC purchased the land plots for the Kintoma and Telbomai mini-systems locations, also at the rate of \$500 and \$300, respectively. The deeds were being prepared for probation by the Voinjama Land Commissioner Office and the Republic of Liberia. It was expected that the land will be fully deeded by the end of July 2014 however due to Ebola, the process was delayed. LWSC provided copies of the various attestations to LMWP.

7.3.4 CAPITAL IMPROVEMENT PROJECTS

CIP Design and Solicitation Activities

Preliminary Capital Improvement Project (CIP) plans were submitted on September 30, 2013 for USAID, LWSC, MPW and internal review and approval. LMWP met with USAID Engineer and LWSC to review the plans and design in detail. LMWP and USAID Engineer from Ghana met over the course of two weeks to review the plans in detail; LWSC was invited to these meetings however only attended two meetings. Several key drawings were reviewed with LWSC and the USAID Engineer using an overhead projector in efforts to solicit CIP comments and approval from LWSC. No formal comments were received by LWSC, MPW and other stakeholders on the CIP plans; the plans had been discussed in the Engineering Working Group meetings and comments requested on multiple occasions.

USAID provided detailed comments in mid-November for LMWP to incorporate to the final design that was submitted on December 2, 2013; the final design submission included Basis of Design Report (BODR), Technical Specifications, Issue-for-Bid Design Drawings and Request for Proposal (RFP) document. LMWP met with LWSC to review the CIP final drawings on December 10 and 12, 2013. There were no outstanding comments at this time and LWSC indicated they will approve the drawings by signing the drawings which they did on April 14, 2014. USAID Engineer provided his additional comments to the December 2, 2013 submission and a response to his comments and recommendations were submitted to USAID on January 7, 2014.

In December 2013, USAID and its TDY procurement staff began discussion relative to the RFP and procurement process. USAID provided the format for the RFP to follow, and the RFP was revised to reflect the recommended format. Various cost estimates for the CIP and Mini-System were prepared and structured based on USAID's comments.

LMWP conducted an Expression of Interest (EOI) or Request for Information (RFI), soliciting international construction companies' interests in the CIP construction services. The EOI was advertised in September 2013, responses and evaluation was completed in October 2013. LMWP conducted market research to compile a list of international and Liberian companies that may be potential bidders for the CIP. The EOI was advertised on US government procurement website, in the Liberia newspapers and emails were sent to the potential bidders list to notify companies of the EOI. A total of 19 international and Liberian companies responded to the EOI. The breakdown of the number of companies responding from various countries included; USA (5), Liberia (4), China (3), Nigeria (3), India (2), Ghana (1) and Turkey (1). The results of the evaluation determined that approximately 8 companies had the necessary capacity and capability to complete the CIP works. Since the EOI additional firms, include US program management companies have indicated interest in the project. The EOI conducted solicited interested companies only to use a research data and in no way eliminates non-responders from bidding on the future CIP.

LWSC approved the CIP typical and high density kiosk design in January; LMWP revised the CIP drawings accordingly. LMWP conducted multiple coordination field trips to assess the proposed pipeline alignments, kiosk locations and overall review of CIP drawings.

Additional review comments were provided by USAID for the Sanniquellie CIP design on April 25 and for the Voinjama CIP design on June 11, 2014. LMWP addressed the comments and submitted a combined Sanniquellie and Voinjama response to USAID on June 30. At the time, a final Issue for Bid CIP Package was submitted to USAID on July 7.

Through July and August, final versions of the Operational Oversight specifications and cost estimate were provided to USAID.

USAID provided LMWP with a final set of CIP design and drawing comments on September 25, 2014. These will be the final round of comments and LMWP will review and respond to the comments and submit final CIP drawings in October; final date to be determined based on the level of effort to address the comments.

Weekly conference calls are held between LMWP Engineering Department in country and the home office technical design team to coordinate project activities. As the project transitions into the construction phase and nears the operation phase, all components of this project will become integrated through coordination between the Tasks.

Robertsport CIP Activities

On November 26, 2014, LMWP met with Grand Cape Mount MPW Resident Engineer to discuss the Robertsport pipeline extension project and the upcoming CIP; specifically with regards to the concrete road repair, pipeline alignment, plan approval and traffic control.

Coordination with World Bank West Africa Regional Fishery Project (WARFP)

LMWP attended the project kickoff ceremony for the Robertsport West Africa Regional Fishery Project (WARFP) hosted by the World Bank on March 5. LMWP's purpose of attending was to coordinate the CIP pipeline construction and future fishery water supply. The fishery site plans to include ice making and fish cleaning equipment, both which will require water from LWSC. LMWP met with World Bank Representative Sachiko Kondo and Dr. Issiah Braimah, the Project Director on WARFP.



Robertsport WTP solar field area surveyed (Feb 2014) and existing conditions at the Plant (Sept 2014)

Sanniquellie CIP Activities

LMWP engineers visited Sanniquellie on October 3 to review the CIP plans and conduct a site visit that included traveling the proposed pipeline alignment from the intake, through the treatment plant and along the distribution line. Comments were generated from the site visit and provided to the Design Team.

Coordination with Arcelor Mittal

On November 23, Arcelor Mittal responded with comments on the pipeline crossing the railroad in Sanniquellie. The comments are in response to the specifications and railroad crossing details sent to Arcelor Mittal as follow up to earlier meetings and coordination site visits on this Subject. LMWP addressed the comments in the final CIP plans and will continue to coordinate efforts with Arcelor Mittal during the construction phase.



Coordination with West Africa Power Pool

In order to coordinate with the Liberia Electric Company (LEC) regarding a possible power connection to the Sanniquellie WTP, LMWP provided LWSC with electrical design and power demand as was required by a West Africa Power Pool (WAPP) representative. LWSC has insisted they coordinate this activity therefore LMWP has provided LWSC with the necessary documents to provide WAPP in request for an extension of the city power line to the water treatment plant. LEC indicated that an assessment of the system to be connected was required prior to making a connection. The cost of service would be determined after the assessment by LEC.

Voinjama CIP Activities

LMWP engineers visited Voinjama on October 1 to review the CIP plans and conduct a site visit that included traveling the proposed pipeline alignment from the intake, through the treatment plant and along the distribution line. Comments were generated from the visit and provided to the Design Team and LWSC.

Coordination with MPW regarding paving in Voinjama

LMWP met with Ali Ayub (SIDA/MPW) in Voinjama on November 20-22 to coordinate LMWP CIP plans with MPW road paving project. SIDA (Swedish Aid) and MPW were in the process of paving portions of Voinjama roadway network and LMWP notified them of the anticipated CIP pipeline crossings. MPW agreed to install “sleeves” under the newly paved road that will allow for the installation of pipeline without damage to the road.

LWSC (Hne Coleman) and LMWP met with SIDA Project Engineer (Ayub Ali Mia) and MPW Resident Engineer (Robert Gibson) in Voinjama. All parties walked to the anticipated pipe crossing locations that would pass under the proposed road. SIDA indicated they will provide a sleeve (or allowance under the paved road) for the proposed pipeline to pass under the paved roads so that future destruction of the road is minimize or eliminated. LMWP engineering representative was present during the work to document and record locations of the sleeve installations done by the MPW subcontractor. While in Voinjama,

LWSC/LMWP met with the Lofa County Superintendent Hon. George S. Dunor; LWSC explained the reason for the coordination visit with MPW and LMWP updated the Superintendent on project progress.



On February 26, LMWP site engineer received notification that MPW would stop constructing additional sleeves for the CIP pipeline crossings. The reason for this change was not provided to LMWP. The implication will be that during construction and installation of the pipeline at crossings without a “sleeve”, the Contractor will have to saw-cut the concrete and replace after installing the pipeline.

CIP Kiosk Land Acquisition

During the month of February, LMWP engaged LWSC to obtain necessary land documents for the CIP kiosks in each of the three cities. LMWP conducted trips to each of the cities to assess the land required by each CIP kiosk. LMWP provided CIP distribution drawings showing the kiosk locations and kiosk layout plans to Mr. Hne Coleman, LMWP-LWSC Liaison, on May 27. LMWP met with LWSC Hne Coleman on June 23 to set a plan to collect land information and deeds for CIP kiosks.

In July, LMWP and LWSC conducted a trip to Sanniquellie and Voinjama to address CIP kiosk land acquisition; LWSC was absent due to mechanical problems. During this trip, 18 kiosk locations were reviewed and owners identified, while in Voinjama, 15 kiosk sites were reviewed.

Land acquisition for the CIP kiosks was put on hold due to the Ebola situation, however at the end of September 2014, the LWSC MD instructed LWSC during the trilateral meeting to continue with the land acquisition process so that it doesn't delay the award of a CIP construction contract. LMWP is prepared to assist in this activity through hiring surveyor services to stake, plot and map each kiosk location.

CIP Water Service Connection Requests to Date (ongoing list)

The following is a list of tentative service connection and potential customers for LWSC.

- World Bank Fishery Project (Robertsport)
- Nana's Lodge (Robertsport)
- Jackie's Lodge (Sanniquellie)
- *Additional customers will be added as interest is expressed to LMWP or LWSC*

7.3.5 HISTORY OF CAPITAL IMPROVEMENT PROJECT (CIP)

Per USAID's direction in Year 2, LMWP combined the Short Term and Medium Term Improvements designs and drawings into one package that is referred to as the Capital Improvement Project, or CIP) and make adjustments based on USAID's expected funding envelope and timing. USAID and LMWP agreed that this complete package based on this direction would be submitted by September 30, 2013. LMWP submitted the CIP package on September 30, 2013 including detailed design drawings, specifications, draft tender documents, and basis of design report.

Table 7.4 provides completion status of the Task 4 activities as per the Year 3 Work Plan.

TABLE 7.4. TASK 4 ACCOMPLISHMENTS VS. YEAR 3 WORK PLAN

Task 4: Capital Works	Completion Status
Robertsport Pipeline Extension Project	
Environmental Permitting	
<i>Project Brief to EPA and Permit Issuance (Y2) (Permit Received)</i>	--
Bidding and Negotiation	
<i>Completed tendering and negotiated contract (Y2)</i>	--
USAID SUWASA CO provides consent to Award Contract	100%
SUWASA Approves and Execute Contract immediately following LWSC resolution of land issue	100%
Construction	
Issue Notice to Proceed (pending LWSC and USAID approvals)	100%
Pre-Construction Meeting	100%
Construction Management Activities	
Contractor's Mobilization Period	100%
Site Kickoff Meeting	100%
Construction Management Activities	Ongoing
Receive Substantial Completion	Planned for Y4 Q1
Prepare Punch list and Oversee Punch list Activities	Planned for Y4 Q1
Final Acceptance	Planned for Y4 Q1
Mini-Systems	
Environmental Permitting	
Clarify Mini-Systems Permitting Requirements (EPA, USAID)	100%
Establish Procurement Method	
LMWP provides support required for analysis and selection of procurement method.	100%
USAID finalizes procurement method and requirements	100%
Final Design Package	
Revise and Submit Final Design Package for Approval	100%
USAID, LWSC, MoPW, EWG, and LSCs Submit Review Comments	100%
Correct Final Design Package	100%
USAID and LWSC written approval of designs (and LWSC secures MoPW approval)	100%
Bidding and Negotiation	
Material Procurement RFP, evaluation, award	100%

Task 4: Capital Works	Completion Status
Material Delivery	Ongoing
Assist USAID during Installation RFP Preparation	100%
Installation Bidding Period	100%
Review Bids for Installation	100%
Select Winning Bidder for Installation and Negotiate Contract	Canceled
Construction	
Notice To Proceed - Mini-System Construction	Canceled
Supervision of Construction Activities	Canceled
LMWP 3-City Capital Improvement Project	
Draft 611 e Cert. Report to USAID	Completed
EMMP / Environmental and Social Impact Assessment	
<i>Submittal of Scoping Report and TORs submitted to EPA (Y2)</i>	--
<i>EPA Review and Approval of Terms of Reference (Y2)</i>	--
<i>Draft EMMP / ESIA Report (Y2)</i>	--
<i>LMWP Comment and Review Draft EMMP / ESIA Report (Y2)</i>	--
<i>Submit Draft ESIA to USAID (Y2)</i>	--
USAID Provide Comments on ESIA	100%
USAID Provide Comments / Approval of Scoping Statement	100%
LMWP / Earthtime address comments and submit final version to USAID	100%
Earthtime submit ESIA to EPA	100%
Acceptance of EMMP / ESIA by EPA and Issuance of Permit	100%
USAID Approval of EMMP (after EPA approval)	100%
Draft Design Package for CIP	
<i>Submission of preliminary Plans, Specifications, Cost Est., Basis of Design Report (by Sept 30, Y2)</i>	--
USAID, LWSC, MoPW, EWG Review and Submit Written Comments / Red-Line Markups	100%
Contractor RFI (Expression of Interest)	
<i>Prepare RFI Notice - Y2</i>	--
<i>Issue RFI Notice - Y2</i>	--
Collect and Evaluate RFI Responses	100%
Final Design and Tender Package	
<i>LMWP Submits Final Bid Package to USAID (Dec 2)</i>	100%
LMWP resubmits designs incorporating kiosk changes per LWSC request	100%
<i>USAID "acceptance" of Final Designs</i>	Pending final comments submitted to LMWP on September 25, 2014
LMWP revises Draft CIP RFP per USAID IFB template provided Dec 2013	100%
<i>USAID/Liberia comments on Revised Draft CIP RFP</i>	100%
LMWP incorporates CIP RFP comments	100%
<i>USAID prepares and completes Mission Director approval process (2 weeks)</i>	100%

Task 4: Capital Works	Completion Status
USAID Submit Bid Package for Acquisition and Assistance Review and Approval	100%
<i>USAID Africa Bureau approval process (1 month est.)</i>	100%
<i>USAID Contract Review Board Approval Process (2 weeks, longer if comments generated)</i>	100%
Bidding Process	
<i>Issue Public Tender - USAID - Pre-Solicitation</i>	0% - Pending USAID
<i>Issue Public Tender - USAID - Bid</i>	0% - Pending USAID
Site Visits	Year 4
<i>Bid Submission Deadline - USAID (45 day bid period)</i>	Year 4
<i>Evaluate Bids - USAID (2 months)</i>	Year 4
<i>Prepare Contract Docs - USAID (concurrent activity)</i>	Year 4
<i>Negotiations - USAID (1 month)</i>	Year 4
<i>Award - USAID</i>	Year 4
Construction	
Issue Notice to Proceed	Year 4
Pre-Construction / Kickoff Meeting	Year 4
Contractor's Mobilization Period	Year 4
Supervision of Construction Activities	Year 4 - 6
Receive Substantial Completion (2016)	Year 6
Prepare Punch list and Oversee Punch list Activities (2016)	Year 6
Final Acceptance (2016)	Year 6
Contractor Plant Operations (2016)	Year 6 -7

7.4 TASK 5 – TRANSITIONAL MANAGEMENT OF WATER SUPPLY IMPROVEMENTS

Under this task, LMWP is to support management of water system improvements and provide technical assistance, capacity building and financial support during the transition to full autonomy of the Local Management Entity (LSC/LWSC).

In addition to continuous technical and other support to the Robertsport Water Treatment plant operations, activities under this task have focused on the finalization and signature of the MOUs between LWSC and the respective project cities and supporting preparation for sustainable utility management. This included the development of business plans for the outstations, finalization of the IDAMC template and development of the monitoring and evaluation framework, procedures and protocols to accompany the adopted institutional framework.

7.4.1 HIGHER LEVEL SUPPORT RELATED TO SUSTAINABLE UTILITY MANAGEMENT

Following the establishment during Year 1 of the national level Transition Working Group (TWG) and Local Steering Committees (LSCs) to represent each target city and signature of the MOU between LMWP and LWSC during Year 2 (July, 2013) defining the overall institutional framework, activities under this task during this past year focused on finalization, adoption and signing of the MOUs between

LWSC and the respective project cities. The MOU between LWSC and Robertsport City was signed on March 23, 2014 in Gbarnga during the launch of the LWSC/LSC Capacity Building Program. Two (2) Transition Working Group (TWG) workshops were held in Monrovia (TWG 8 & 9) culminating in the signing of the MOU between LWSC and the Project Cities of Sanniquellie and Voinjama on July 23, 2014 during TWG 9.

The signed MOUs between LWSC and the respective project cities attest to LWSC's and local stakeholders' commitment to operating the outstations on a cost recovery basis with both revenues and expenses effectively "ring-fenced" and with full involvement of the local stakeholders in a monitoring

function. LWSC has agreed to an "Internally Delegated Area Management Contract" (IDAMC) approach for the management of the outstations. LWSC has adopted cost recovery as a driving principle for its operations overall and for the management of the outstations in particular. This is a great achievement in the Liberian context where the water sector is highly fragmented without a dedicated Ministry of Water responsible for overall sector policy.

Under this framework, LWSC will consider each outstation a separate entity managed by an Outstation Management Team. The Outstation will be managed and operated under clearly stipulated performance standards enshrined in a contract between the Outstation and LWSC Head Office. Under the IDAMCs, a high degree of operational control remains with LWSC Head Office through contract flexibility and the ability of LWSC Head Office to provide operational "backstopping".

During the MOU review and finalization process, LMWP was informed by USAID that the Cities MOUs would need to be reviewed and approved by the Regional Legal Advisor for USAID, along with the senior USAID Management including the Mission Director and his Deputy - as this was going to be a document making commitments on behalf of USAID. Preliminary clearance of the MOU was provided on October 31, 2013. Copies of the signed MOUs for Robertsport, Sanniquellie and Voinjama were provided to USAID for signature by the Mission Director, which has been completed.

Table 7.5 summarizes the objectives and outcomes of the respective TWG workshops conducted during the third year.



TABLE 7.5. OBJECTIVES AND OUTCOMES OF YEAR 3 TWG WORKSHOPS

Objectives		Outcome
TWG 8 January 9, 2014 Monrovia	<ul style="list-style-type: none"> • Review LMWP progress; Construction implementation challenges and issues , including land acquisitions for mini-systems, kiosks and solar arrays and seek guidance from LWSC and LSCs on the way forward • Present and finalize LMWP Y3 Work Plan, Schedule, and Roles and Responsibilities with LSCs and LWSC inputs • Review the final draft LWSC/Project Cities MOUs for Finalization and Adoption • Coordinate with LSCs and LWSC regarding the planned groundbreaking ceremony planned in Robertsport for March including US and Liberian dignitaries. 	<ul style="list-style-type: none"> • Final draft of the LMWP Y3 Work Plan concluded for finalization • Review of LMWP progress, Implementation challenges and Way forward • Final draft of LWSC/Cities MOU concluded and adopted
TWG 9 July 23, 2014 Monrovia	<ul style="list-style-type: none"> ▪ Review LMWP progress; Construction implementation challenges, constraints and way forward. ▪ Finalize the draft IDAMC template and Financial Guidelines for adoption ▪ Review the Robertsport Operations Performance since inception ▪ Review the Robertsport and Kakata Water System Business Plans ▪ Review AfDB/UWSSP Updates, Challenges/Issues and Way Forward ▪ Finalize the final draft of the LWSC/Project Cities MOUs for Adoption and Signing ▪ Present certificates to the LWSC/LSC Trainees 	<ul style="list-style-type: none"> • Adoption and signing of the LWSC/Cities (Voinjama and Sanniquellie) MOUs • Review and adoption of the draft IDAMC template and Financial guidelines • Review of the Local Business Plans for the LWSC Outstations: Robertsport, Kakata • Certification of the participants of the LWSC/LSC Y3 Capacity Building / training

7.4.1 PREPARATIONS FOR SUSTAINABLE UTILITY MANAGEMENT

In preparation for the sustainable operation of the outstations, LMWP continued to work closely with LWSC and LSCs on development of procedures and systems for the management of the outstations. This included the following:

- **Business Plans** were developed for Robertsport and Kakata. The business plans will serve as a basis for the IDAMC to be signed between the Outstations and LWSC headquarters.
- The **Internally Delegated Area Management Contract (IDAMC) Template** was finalized and reviewed and approved by LWSC and the LSCs. The template IDAMC will be used to develop the first contract between Robertsport Outstations and LWSC Central Office. We expect to sign the Robertsport IDAMC in the first quarter of next year.
- A **Draft Sustainability Monitoring Plan** was developed and reviewed with LWSC and USAID along with a **Sustainability Monitoring Report Template** and **Outstations Reporting Template** to be used for the Outstations
- **M&E Protocols** for the monthly M&E visits were developed and applied for the monthly Robertsport M&E visits since April, 2014.
- **Audit Report Template** was developed for the bi-annual audits to be conducted.

7.4.2 SUPPORT TO ROBERTSPORT EMERGENCY IMPROVEMENT PROJECT

The Robertsport emergency improvement project (water treatment facility and water point) has been in constant operation since March 2013. Water is being sold at a tariff rate established by LWSC, with assistance from LMWP, based on estimated operation and maintenance costs. LMWP has continued to work with LWSC to develop a cost of service tariff, develop procedures for operation and maintenance of the facility, and to establish financial management procedures including a local escrow account where the sales revenues have been “ring-fenced”.

Over the past year, the facility sold over 7,494 liters of water per day on average at a cost of \$5 Liberian Dollars (LD) per 20-liter jerrican.

O&M Manual for Robertsport Operations

The O&M Manual for Robertsport has been revised and finalized with LWSC. Following the workshop conducted last year with LWSC and the LSCs, the O&M manual was finalized and submitted to USAID for comments. Based on the feedback received from USAID, the Manual will be updated and reviewed with LWSC for use and application in Robertsport. LMWP is also working with LWSC to harmonize the development of O&M manuals for the other Outstations.

Financial Procedures Manual for Robertsport

In line with the recommendations of the TWG, it was agreed between LWSC and the LSCs that all revenues from water sales would be first and foremost dedicated to covering operations and maintenance costs including staff salaries, energy, chemicals, and other costs associated with normal functioning of the water systems in the respective cities. As Robertsport was the first city to benefit from a functioning water system with support from LMWP, a draft "Proposed Procedures for Managing the Robertsport City Water Supply Services Escrow Account" (also referred to as Financial Procedures Guidelines) was developed as

an appendix to the MOU between LWSC and the LSCs. The manual provides guidance on the procedures for depositing and withdrawing funds from the account. With LMWP's assistance, LWSC established a local account in Robertsport and as per the recommendations of the TWG, the Robertsport LSC is a signatory to the account. The manual was approved during TWG 9 in Monrovia and will be part of the IDAMC for Robertsport.

Water Quality Analysis

Since its inception, the Robertsport emergency improvement project has been subjected to careful monitoring and water quality testing. Beyond the extensive baseline assessment done during the Situational Analysis, key parameters currently tested for include total (TC) and residual chlorine (RC) levels at various points within the system. The water is treated essentially using chlorination, more precisely, 70% HTH (Granular Calcium Hypochlorite Hydrated) Mixture. Collected samples are analyzed for total and free chlorine content using the following standard approaches:

1. Test Strip Colorimetric Analysis: using SenSafe™ Total Chlorine Water Quality Test Strips and SenSafe™ Free Chlorine Water Check, respectively; and
2. Hach Chlorine Colorimeter™ Model 58700-00: using DPD 8021 Method.

Samples are collected at three main points within the distribution system, namely:

- the 5,000-gallon storage tank (bladder),
- the public kiosk (sales point), and
- The Police Support Unit taps at the WTP.

Due to the high demand for water during the dry season, the storage bladder is now being recharged two to three times a day, and chlorinated accordingly.

LMWP purchased a Wagtech Potalab®+ Water Quality Laboratory, a field-grade advanced long-term monitoring kit to be used mainly for training purposes and for quarterly water-quality testing of key USAID required physicochemical and microbial parameters in the three cities. The kit will be used for quarterly water quality testing in the three cities. Sampling sites will include the raw water sources of the Fasa Creek in Robertsport and Zeliba and Bee Rivers, in Voinjama and Sanniquellie respectively, along with treated water at the Robertsport Water Treatment Plant. Analysis during the period commenced with Robertsport and is set to extend to the other cities in Year 3.

As part of the LMWP capacity-building program, Outstation water-quality trainings were held at the Kakata Outstation from June 12 to 13, 2014, and in Robertsport from June 23 to 24. The exercise included a practical hands-on assessment of water quality parameters at various stages of the distribution system, such as:

- The raw water (Well 1 in Kakata and Fassa Creek intake in Robertsport);
- Treated water at the plant;
- A community “cash and carry” kiosk; and
- A private or household connection.

Chemical parameters were assessed onsite upon sampling. Bacterial mounts for total and fecal coliforms were prepared the day before in membrane lauryl sulphate culture media and allowed to incubate for 18 hours. Following incubation, counts were determined using the membrane filtration method.

In Robertsport, physicochemical analysis using the Wagtech Photometer 7500 showed that total and residual chlorine results at the level of the kiosk and the domestic connection installed for the Police Support Unit residents within the plant's premise exceeded the World Health Organization (WHO) range of 0.2mg/l to a maximum 2.0mg/l of chlorine residual; with the higher end of the interval intended for samples collected at the water treatment plant and the lower end at the level of the end-user.

Meanwhile, test-strip analyses conducted daily by plant operators over the past months have all shown residual chlorine levels generally ranging from 0.8-1.2mg/l, well within the range.

A test-strip analysis conducted the day following the colorimetric test using the photometer also suggested a value of 1.2 mg/l. It was later noted that the reason for the observed increase in chlorine content was due to the fact that prescribed chlorine quantities and dosing had been increased from two tablespoons to three by plant operators without informing LWSC head office or LMWP. Chlorination techniques were then reviewed and operators were instructed to return to the original dosage prescribed of two tablespoons dissolved in two liters of water to create a concentrate prior to administration.

To further eliminate subjectivity within test results, it was decided that the LMWP portable Hach Colorimeter be turned over to the operators on July 1, 2014, to ensure more accurate results.

Water Quality Assurance Plan (WQAP)

During the past year, LMWP developed an initial draft Water Quality Assurance Plan (WQAP). The ultimate goal is to ensure that water-supply systems improved under LMWP are effectively monitored and sustainably managed for maximum socioeconomic and public health benefits to consumers.

The WQAP is expected to serve as the practical basis and standardized framework for water quality testing, monitoring, and management within LWSC's water-supply facilities in Robertsport, Sanniquellie, and Voinjama, and hopefully, across Liberia. The document has been submitted to the USAID and LWSC for review and inputs.

Monitoring & Evaluation (M&E) of Robertsport Operations

In cooperation with LWSC and the Robertsport LSC, LMWP has conducted monthly monitoring and evaluation of the Robertsport operations. This included the review of technical, financial and operational issues for the WTP. The monthly M&E exercise is conducted by a joint team composed of LMWP and LWSC staff and Robertsport LSC members.

Implementation of the sustainability Monitoring plan started in April 2014 with the first Joint Monitoring and Evaluation visit to Robertsport. Regular Joint Monitoring and Evaluation Visits followed throughout the fiscal year.

Consistent with the sustainability monitoring plan timelines, the joint M&E visits were conducted on an approximately monthly basis, providing the requisite oversight needed for sustainable operations of the Outstations. The calendar and the dates of the visits have been adjusted in coordination with the parties to factor the LWSC logistics issues and the quarantine of the Cape Mount county in relation to the Ebola outbreak.

The exercise is conducted as per the protocol that was developed in harmony with the sustainability monitoring Plan and the Monthly Sustainability/Feedback reporting template. The protocol includes a pre-assessment, a pre-conference, a field visit, unscheduled interviews, technical reviews, and an exit conference. Performance indicators that were monitored and evaluated were technical, commercial, financial, and management performance, as well as special project issues.

The joint Monitoring and Evaluation team is comprised of representative of the following entities:

- Outstation Management Team
- Local Steering Committee
- LWSC Head Office
- LMWP

During this visit, activities included the following:

- Updates on corrective actions from previous months
- Review of the Outstation Monthly Performance Report
- Monitoring / Evaluation / Feedback meetings

The monthly M&E reports since the beginning of the visits in April 2014 have been (and will continue to be) submitted to USAID under separate cover.

TABLE 7.5 TASK 5 ACCOMPLISHMENTS VS. YEAR 3 WORK PLAN

Task 5: Transitional Management of Water Supply Operations	Completion Status
Develop Sustainability Monitoring Plan (Financial and Operational)	100%
Review Sustainability Monitoring Plan with USAID, LWSC	100%
Final Sustainability Monitoring Plan	100%
Develop Draft IDAMC Template	100%
Develop Draft LWSC-GoL Performance Agreement Template, review with LWSC	Ongoing
Review IDAMC and LWSC-GoL Performance Agreement Templates with USAID, LWSC	Ongoing
Final IDAMC Template	100%
Develop Draft IDAMC - Robertsport and Kakata	Ongoing
IDAMC Sensitization / Pilot in Robertsport and Kakata	Ongoing
Signed IDAMC - Robertsport and Kakata	Pending
Support LWSC's development of Internal M&E Unit (composed of LWSC Eng., Comm & Fin. + LMWP M&E, WQ and DCOP) and procedures regarding Outstation performance and operations	Ongoing
Update and Finalize Robertsport O&M Manual and Financial Procedures Guidelines for Robertsport pipeline extension	100%
Pilot Asset Management System Software in Robertsport and Kakata	Ongoing
Develop Local Business Plan Template	100%
Local Business Plans for Robertsport and Kakata	100%
Mini-System Operational Procedures / Manual - Sanni and Voinj	Pending
Mini-System Financial Procedures / Manual - Sanni and Voinj	Pending
Develop IDAMC - Sanniquellie and Voinjama (Mini-System Focus)	Pending
Draft Local Business Plans for Sanniquellie and Voinjama	Pending
Quarterly LSC Meetings	Ongoing
Develop format for Monthly Sustainability Monitoring Report	100%
Monthly Sustainability Monitoring Report	Ongoing
Monthly Feedback / Evaluation Meeting Report	Ongoing
Develop format for Operator Audit Reports	100%

Task 5: Transitional Management of Water Supply Operations	Completion Status
Operator Audit Reports Biannually <i>[dependent on system establishment]</i>	Ongoing
LWSC/AfDB Develop O&M Manual for Kakata	Ongoing
Support Kakata OMT in development and finalization of Financial Procedures Guidelines for Kakata	Ongoing
Support the LWSC in finalizing the organization structure for the RobertSPORT Pipeline Ext. and Mini-System Outstations	100%
Support the LWSC in finalizing the organization structure for the CIP Outstations	100%
Development of Tariff structure and model based on the principle of cost recovery for Kakata and RobertSPORT at current operations level	100% for RobertSPORT Ongoing for Kakata
Continued support to LWSC on cost of service analysis and tariff development process	Ongoing
LWSC Establishes tariff for RobertSPORT at Pipe Extension operations level	Ongoing
Work with LWSC and sector stakeholders including IWASH to develop an updated joint LWSC / LMWP safe water marketing and communication and outreach strategy for LMWP target outstations	Suspended
Implementation and Monitoring and Evaluation of Social Marketing Strategy in collaboration with IWASH, LWSC, and LSCs	Suspended
Support LWSC in developing policy for accommodating customers who are willing and able to install a metered piped house connection (associated tariff, construction requirements, additional staff requirements)	Ongoing
Support ongoing AfDB and WSP efforts to establish a computerized billing system for LWSC, with focus on Outstations.	Ongoing

7.5 TASK 6 – CAPACITY BUILDING

Ensuring that the requisite technical, regulatory, procurement, and managerial capacity exists to sustainably maintain infrastructure is critical to the success of LMWP and a fundamental strategic pillar for this project. The development of the institutional framework and the existence of the requisite capacity at the national and local level are essential to the Project success. The capacity building component crosscuts activities under all the other tasks. Hence, as reflected in this report, the capacity building component of the project is "woven" into all the other tasks. We have related the capacity building activities and initiatives under each of the previous tasks and sections.

The objective of this mainstreamed approach is to ensure that upon completion of the Project, national, local, institutional and managerial capacity will be developed to maintain, manage and operate water supply infrastructure, paving the way for further expansion and management of such improvements in the years to come. Our Capacity Building strategy focuses on four levels:

- **LWSC:** Building the capacity of LWSC Head Office and Outstations to ensure sustainability of water infrastructure improvements;
- **Local Steering Committees:** Building the capacity of LSCs in each of the target cities to effectively perform their monitoring role and responsibility within the new institutional framework;
- **Local LMWP Staff :** Equipping LMWP local staff to effectively deliver on project deliverables, and be in a position to take on leadership roles at LWSC and outstations upon project closeout;
- **Local Contractors:** Building the capacity of local contractors to bid on and successfully carry out municipal water construction;

Through discussions with the Capacity Building Task Force, it was decided to join the LWSC and LSCs Capacity Building Plans into one – and wherever possible offer joint training with LWSC and members of the LSCs associated with LMWP and UWSSP.

7.5.1 LWSC/LSC CAPACITY BUILDING

LWSC/LSC Capacity-Building Plan Development

The LMWP Y3 Work Plan and the revised Task Force Consolidated Capacity Building Plan were reviewed in collaboration with LWSC, both of which have been endorsed by LWSC. The various modules and session plans were jointly finalized in collaboration with LWSC with a total of 22 modules developed. Most of the sessions were functional, outcomes-based trainings with emphasis placed on practical exercises (for example, simulations, discussions, and practical analyses).

The LMWP capacity-building program was officially launched with the hosting of a basic report writing and computer applications training in Gbarnga, Bong County, in LMWP Y3Q2, which extended into multiple sessions in Y3Q3.

LWSC/LSC Capacity Building Program

From March 17th to 20th, 2014, the LMWP Capacity Building Program was officially launched with the hosting of a Basic Report Writing and Computer Applications Training in Gbarnga, Bong County. The training brought together 35 participants from the Liberia Water and Sewer Corporation and the Local Steering Committees of Sanniquellie, Robertsport and Voinjama cities respectively.

LMWP organized and hosted a series of two-, three-, and four-day training workshops. The sessions were held at the LMWP head office, local hotels in the capital of Monrovia, and in the urban city of Gbarnga, Bong County, Liberia. Topics covered included:

1. Operation and maintenance (O&M) manual;
2. Financial guidelines manual;
3. IDAMC implementation (overview);
4. Construction management and quality control;
5. Environmental compliance and reporting;
6. Outstation water-quality management;
7. COS analysis refresher;
8. Business plan development;
9. Sustainability monitoring; and
10. Health and safety.

The overall goal of the training program is to assist in strengthening LWSC, LSC and other stakeholders' institutional capacity for effective operation and management of the future systems. After the initial launch training event, 10 additional training modules were satisfactorily completed in 2013 before the program was put on hold due to Ebola.

The workshops targeted a cross-section of relevant LWSC staff including the Outstation Management Teams (OMT) for the LMWP target cities and the AfDB supported cities of Kakata, Buchanan, and Zwedru, and Monrovia-based staff including senior management, managers, finance/account and commercial personnel, internal auditor, White Plains staff, and other key stakeholders, including the local steering committees for the LMWP cities. In all, a total of 118 participants were trained in various disciplines as listed above. Additional details and feedback are provided in the Q3 Report.

Institutional Capacity Support to LWSC

Provision of IT Equipment

To help build its IT capacity, in late 2013, LWSC requested LMWP's support for various computer equipment and components - mostly laptops and desktops computers and a server.

On February 13, 2014 in an official handover ceremony held within the LWSC Conference Room in Monrovia, a consignment of computer equipment consisting of printers (2), desktop computers (21), and laptop computers (9) was presented to the LWSC Managing Director, Charles Allen by USAID Mission Director John Mark Winfield, on behalf of the USAID Liberia Municipal Water Project. This computer equipment is valued at around \$40, 000 USD.

Cost of service study and tariff setting support (in collaboration with SUWASA)

So far, in collaboration with LWSC, LMWP has helped develop a cost of service (COS) tariff analysis and draft models for the various water improvements including the Robertsport Pipeline Extension, and the Robertsport and Voinjama CIP Outstations.

For the Robertsport pipeline extension tariff analysis, it was observed that staffing has a significant impact on the tariff calculations. This was brought to LWSC's attention in order to factor this in the discussions on the tariff analysis. Meanwhile, for the CIP, the impact of staffing on the cost of service is minimal compared to the impact of the volume of water sold. These draft models have been submitted to the LWSC pending further discussion and review.

During the COS Tariff Model training conducted in December 2013, two of LWSC's finance/account staff members were also trained in completing/filling in the Expense Data Tracking Sheet to track and collect expense data for the various outstations including the Monrovia Water Supply System. These individuals were active in the expense data compilation process. During the quarter under review, however, one of the two staff trained resigned from the LWSC. This has posed serious impediment to the LWSC in tracking and updating the operational expense data tracking sheets. In light of such human resource challenges, LMWP has recommended that additional finance/account staffs be trained as soon as possible to bridge this gap.



Human Resources and Institutional Strengthening and Support of LWSC

Recruitment of Water-Utility Specialist

The LMWP finalized the recruitment of a Water Utility Operations and Institutional Strengthening Specialist (WUS) for secondment to LWSC. LWSC has provided office space and the WUS has been working from LWSC for half days each day since April.

Construction Site Engineers Recruitment

A Terms of Reference (TOR) was developed in collaboration with the LWSC and advertised; and the interviews conducted. According to the TOR, the incumbent will work under the direct supervision of the Project Manager (LMWP/LWSC Project), with secondary reporting commitment to the LMWP Water Supply Engineer (WSE) or designee. However, in September, LMWP and LWSC achieved a consensus to have the incumbent work directly under LWSC's DMD for Technical Services.

USAID had earlier granted acceptance to the hiring of three construction site engineers for project cities of Robertsport, Voinjama, and Sanniquellie. However, due to the delay in the anticipated start of construction works for the mini-systems, USAID had advised that LMWP proceed with the hiring of only one of the three candidates at this point to work on the Robertsport Pipeline Extension pending the construction works for the Sanniquellie and/or Voinjama mini-system. Re-advertisement for the other two LWSC site engineer positions will proceed when the mini-system or CIP construction dates are finalized. The recruitment and secondment process for Construction Site Engineers for Robertsport is progressing steadily and is expected to be completed early in Year 4. The LMWP is to develop a LMWP/LWSC MOU spelling detailed modalities for the secondment and possible absorption later by LWSC for USAID approval.

Communication and Outreach (Behavior Change Communication), and Social Marketing Specialist

With guidance from USAID, LMWP in collaboration with the LWSC is in the process of hiring a communication and outreach (Behavior Change Communication) and Social Marketing Specialist (CAO/BCC/SM) to be located at LWSC. This person will work with the LWSC to facilitate the development and implementation of a LWSC/LMWP communication, outreach, and social marketing of safe water campaigns at the community level.

LMWP proposed to work with LWSC and other sector stakeholders including IWASH to develop an updated and revised joint LWSC/LMWP communications, outreach, and awareness strategy incorporating social marketing of safe water strategy and plans for the LMWP target Outstations.

During the Trilateral meeting in September 2014, the LMWP, LWSC and USAID achieved consensus to suspend the hiring for the next 2 to 3 months.

Monitoring and Evaluation Specialist

LMWP in collaboration with the LWSC is seeking to hire a qualified Monitoring and Evaluation (M&E) Specialist to be located at LWSC and be responsible for assisting the LWSC in the establishment of a M&E Unit at the LWSC, and the implementation and monitoring of Internally Delegated Area Management Contracts (IDAMC) in collaboration with the LMWP Water Utility Specialist and the LMWP M&E specialist.

The TOR for the M&E specialist has been developed, finalized and advertised with the LWSC inputs for the solicitation of applicants. The LWSC and LMWP are to proceed with the shortlisting and interview next quarter. During the Trilateral meeting in September 2014, the LMWP, LWSC and USAID achieved consensus to proceed and affect the hiring and secondment as soon as possible.

7.5.2 EXPLORE WATER OPERATORS PARTNERSHIP (WOP)/TWINNING RELATIONSHIP WITH REGIONAL UTILITY FOR TECHNICAL SUPPORT AND CAPACITY BUILDING

The process of establishing a WOP through a twinning relationship with a regional utility for technical support and capacity building is ongoing. The LMWP has finalized and submitted a draft proposal to the LWSC for review and feedback. Although current consideration is being given to the Ghana Water

Supply Corporation, LWSC is also considering a possible partnership with other utilities, including the Uganda National Water and Sewerage Corporation.

LMWP facilitated its Chief of Party and the LWSC Managing Director to attend the “Africa Water Week” Conference in Dakar, Senegal on May 26-31, 2014 (<http://www.africawaterweek.com/5th/>). Conference attendees with whom they met included potential regional twinning partner utilities (e.g. Ghana Water Company Limited, Uganda National Water and Sewer Company), Tetra Tech Home Office staff involved in LMWP (Morris Israel and John Butler), USAID/SUWASA staff (e.g. Sam Huston), and USAID/Washington staff (e.g. Heather Skilling), in addition to water utility professionals and government representatives from around the continent.

In-Country LMWP Staff Capacity Building

During Year 3Q4, LMWP staff capacity building included ePORT usage, construction management, and other trainings for staff engineers. Other sessions for all staff included basic first-aid training facilitated by the Liberian National Red Cross on May 5; HSE training on June 6; and Tetra Tech Corporate Ethics on June 23.

Engineering Team Capacity Building

LMWP conducted a variety of workshops and trainings to prepare staff of the construction phase. On January 21, LMWP site engineer in Robertsport was trained by LMWP Project Manager on the use of the iPad and ePORT reporting tools. The training provided hands on experience using ePORT and a detailed review of the reporting expectations. LMWP initiated construction daily and weekly reports in ePORT as a way to streamline data collection and reporting from the site engineers at the construction site. In the past, site engineers would either hand write daily reports in a journal or use a laptop. The iPad allows the user to utilize local cell coverage or wireless network to send reports, making the process more efficient and practical for areas of limited or unreliable internet access. Use of the ePORT forms and reporting procedures during the Robertsport Pipeline Extension Project will allow LMWP to work out the bugs in anticipation for the Capital Improvement Projects.

A one-day training session on construction management was held on June 4 to prepare LMWP and LWSC engineers for the construction phase on the Robertsport Pipeline Extension, mini-systems, and the CIP. The training covered project controls that will be utilized during the construction phase of this project, including processes and procedures for progress payments, monitoring schedule, quality assurance, document control, and health, safety, and environment. Exercises were provided to practice project controls and provide participants with hands-on opportunities to apply what they learned. Additional trainings will be conducted in the following year to practice use of the ePORT daily report and to refresh site engineers on the project controls as the work continues.

An Operations and Maintenance Manual was finalized for the Robertsport Pipeline Extension and a capacity building training conducted on June 6 to familiarize outstation teams, LWSC and LMWP staff on the Robertsport O&M Plan for the current improvements underway. These activities are discussed in more detail in Task 5 and 6.

Trainings on thrust blocks, pipeline testing and familiarization of the CIP plans were conducted for the LMWP Engineers in October 2013 along with construction management training and career development sessions. More thorough construction management training was conducted for LMWP and LWSC in June 2014 in preparation for the construction phase of the project.

On November 14, 2013, LMWP Engineering Department staff (Sei Zumba and Ebo Mensah) visited the Ministry of Public Works Laboratory with the purpose to verify testing procedures for the geotechnical investigation carried out by Longman as well as to assess the types of soil and concrete tests that the laboratory has the capacity to carry out.

During this visit the team met with Mr. Sidney K. Devine a Civil laboratory Engineer. He informed the team of his role at the laboratory and in conducting Laboratory tests for Longman Engineering especially for the samples from the three cities.

In September 2014, assignments were provided to the LMWP engineers to study and learn PVC and ductile iron pipe installation methods, preparation of PowerPoint presentations, delivery of their presentations in front of the LMWP team and examining and developing Personal Learning Networks (PLN). Similar professional and interpersonal assignments will be conducted into Year 4 with the intent of building technical skills and professional leadership, managerial skills and career development goals. Preliminary review of CUPPS was conducted in September; more thorough CUPPS trainings will be done in Year 4.

“Throughout my sojourn with the Liberia Municipal Water project (LMWP), especially over the last year, I must admit that I have gained a lot professionally. I have been given the opportunity to carry out bids evaluations like materials procurement for the Mini-System, office partitioning and the Voinjama office rehabilitation. I was absent from the Construction Management Training that was held on June 4th, 2014, but I returned and did an intensive review of the lessons that were presented and I was able to learn a lot. I learn the management of time, cost, quality, scope, risks and many others which are very important. I also learnt the importance of documents preparations such as reports, verifying the correctness and approval of progress payments, the list is endless, but in short, I think it was a good training. Over the last year, On August 7, 2014, I was introduced to Checkup Program for Small Systems (CUPSS) and to date, I have completed two of its online Asset Management trainings. With funding from LMWP, I also had the opportunity to be enrolled at the Liberia Institute of Public Administration (LIPA) to study Project Management however this is currently on hold due to the Ebola epidemic. Finally under the Guidance of my immediate boss, I have benefitted from several learning materials. Recently we were guided in the preparation of PowerPoint presentations that were presented to staffs and critique. We have also been given several tasks to help us understand issues related to pipes their types and their handling, storing and installation. We are presently reading A USAID Primer (Basic Engineering Construction Oversight Principles for Development Professionals) which is helping us to understand USAID types of contracting methods, contracting Mechanism, USAID’s Role and some best practices. On the overall, it’s a good learning process and I think we are been prepared for working as good project managers, potential operators of treatment Plants and future leaders in Liberia water sector.”

James Kessele, LMWP CAD Engineer to relocate to Voinjama as Site Engineer

Career Development

LMWP Engineers were provided information on how to develop SMART goals (specific, measurable, attainable, realistic and timely) and guidance on career planning. Each engineer was instructed to develop their career goals which were discussed with their supervisor and will be used in future performance reviews.

“Over the past year I have gained and added immense knowledge to my profession as an engineer through this Project. I have served on Bids Committees through which I gained knowledge on how to evaluate bids technically and provided recommendation for the successful bidder. As a new comer to the working world, LMWP afforded me the opportunity to present the Engineering Department presentation (PowerPoint) at the 9th Transitional Working Group workshop and in-house presentation which has shown areas that need improvement for better future presentation. As a supervisor/engineer on any project monitoring and oversight is essential for a successful project completion, hence, through LMWP with the aid of the Construction Project Manager I was introduced to Microsoft Project Software which is to be used to track contractor’s work progress.”

Masnoh N.D Jallahbah, LMWP Staff Engineer

New Professional Experiences

In October, two LMWP staff engineers attended the Liberia Engineering Society function in Harbel. This was the first gathering for engineers in Liberia since the conflict and provided a venue for Liberian engineers to meet and plan for future events.

LMWP were involved in the daily and ongoing tasks assigned by the Construction Project Manager. Tasks include CAD drafting for minor improvement works such as bladder shelter, office renovations and other; support on progress payment tracking, contract administration, preparations of RFPs, BOQs, SOWs and other documents required for bid phases, coordination with stakeholders, other government ministries and LWSC, and many other tasks that arise each week. Engineers travel to the field either with the Project Manager or independently on their own to complete assigned tasks, such as traveling to Voinjama to coordinate with Ministry of Public Works.

LMWP engineers were involved in the household survey activities starting in February; their role was as enumerators conducting house to house surveys regarding current water consumption practices, plus surveys of water sources.



LMWP Engineers reviewing CIP plans (left), site visit to examine existing conditions at the Voinjama Tower (middle) and Construction Management Training (right)

“The specific trainings that have improved my technical or managerial capacity over the last year since my inception at the LMWP is how to prepare statement of work which involves drawings and specification for construction activities necessary to avoid disputes or confusions. Construction management training drives through field activities documentation, how to interpret schedules and cross checking of invoices to actual work before payment. Pipeline installation training is preparing for the construction phase of the project through knowing the proper way of installing pipes i.e. not dropping pipes into excavated trenches , checking of valves when pressure testing and reading of specifications.”

Ebo Mensah, LMWP CAD Drafter

Outreach Activities

LMWP conducted numerous outreach activities throughout the year, including dedicated events to provide information about the project and gather feedback and inputs, as well as other events which included an outreach component. Examples of this work included outreach efforts associated with the Geotechnical survey, dissemination of newsletters associated with the Robertsport construction work, meetings with the LSCs of Sanniquellie, Voinjama, Robertsport and various communities, specifically those where the mini-systems will be established, participation in the surveying and mapping of the land for future facilities and meeting with affected landowners, conducting a new household survey including interacting with more than a thousand community members, a groundbreaking ceremony in Robertsport, meetings with potential large customers, work planning workshop and reviews of project documents with relevant stakeholders, plus outreach done through the course of our training programs.

A list of the outreach and training activities conducted for the year is included in Annex B.

A summary of accomplishments versus Year 3 Work Plan for Task 6 is provided in Table 7.6.

TABLE 7.6. TASK 6 ACCOMPLISHMENTS VS. YEAR 3 WORK PLAN

Task 6: Capacity Building	Completion Status
Work with LWSC and AfDB to finalize Capacity Building Plan (Joint Capacity Building Task Force)	100%
Final Capacity Building Plan, corresponding with MOUs	100%
Procure computers to support LWSC HQ ability to manage and oversee outstations	100%
Explore Water Operators Partnership (WOP) / Twinning Relationship with regional utility (e.g. NWSC) for technical support and capacity building.	Pending, Ebola related
SUWASA Cost of Service Training Workshop and technical assistance to LWSC and other external stakeholders	100%
Quality Service Improvement Program (LWSC Headquarters)	Pending, Ebola related
Potential Off-Site Courses for LWSC Sr. Mgmt and Board (possibly IP3)	Pending
Sustainability Monitoring Training (LWSC, LSCs)	100%
Mini-System O&M Training [dependent on procurement/construction schedule] (LWSC)	Cancelled
Refresher Training on Development of Tariff structure and model based on the principal of cost recovery (LWSC, LSCs)	100%
Computer Skills and Basic Report Writing (LWSC, LSCs)	100%
Communication & Outreach, and Gender Mainstreaming Training (LWSC, LSCs) [TBD based on PSI coordination]	Pending, Ebola related

Task 6: Capacity Building	Completion Status
Business Plan Development Training for Robertsport and Kakata [OMT]	100%
Business Plan Development Training for Sanniquellie and Voinjama [OMT]	Postponed
IDAMC Implementation Training (monitoring, reporting, performance evaluation) [Outstation Staff, LWSC M&E Unit, LSCs] - Robertsport and Kakata	Pending, Ebola related
IDAMC Implementation Training - Sanniquellie and Voinjama (Mini-Systems)	Pending, Ebola related
Training of LMWP seconded field engineers to LWSC in construction management.	100%
Kiosks Operation, Maintenance and Financial Management Training (Robertsport and Kakata) (LWSC)	Pending
Outstation Water Quality Management: Basic analysis and quality control (Robertsport and Kakata) (LWSC)	100%
Small Water Utility Management and Best Practices (LWSC)	Postponed
Customer Care Training (communications, outreach/community relations, marketing, gender considerations, quality of service) (LWSC, LSCs)	Postponed
Health, safety and environment in water facilities (LWSC, LSCs)	100%
Outstation budgeting, accounting, and financial management (LWSC)	100%
Construction Management Training including Environmental Compliance, Reporting, and Quality Control (LWSC)	100%
Asset Management Software Training for Small Systems (LWSC)	Postponed

7.6 TASK 7 – COORDINATION WITH OTHER USAID PROGRAMS

In addition to coordination with other USAID programs, this section includes a report on coordination with other donors.

7.6.1 COLLABORATION WITH OTHER DONORS

LMWP continued coordination with other donor-funded entities, including the AfDB Urban Water Supply and Sanitation Program (UWSSP), with regard to institutional management and capacity building. LMWP supported LWSC in establishing LSCs in the UWSSP target cities. LMWP also coordinated with the Sectoral Investment Plan consultancy by the World Bank Water and Sanitation Program (WSP) that was conducted to assess the financial, technical, and capacity needs for the water sector.

Coordination with UWSSP/Harmonization of Institutional Framework and Capacity Building

LMWP continued to make significant headway in Q4 with coordination and cooperation with the African Development Bank (AfDB) Urban Water Supply and Sanitation Program (UWSSP), which is conducting similar work to that of LMWP in three other secondary urban centers (Kakata, Zwedru, and Buchanan).

Coordination efforts were focused on the finalization of the Y4 training plan with the LWSC/AfDB (UWSSP) and integrating training needs for both the LWSC and the LSCs for the LMWP and AfDB/UWSSP cities. LMWP did not make significant progress in Q4 in terms of hosting and implementation of the UWSSP/LMWP joint collaborative training program for LWSC/LSC due to Ebola. Additional technical coordination meetings have been established to share information on other project activities.

7.6.2 COLLABORATION WITH SUWASA ON FANTI TOWN PIPELINE, TARIFFS, AND CAPACITY BUILDING

LMWP reached out to the USAID-funded Sustainable Water and Sanitation in Africa (SUWASA) Project to support the Robertsport Fanti Town Pipeline extension project. As part of the SUWASA partnership, a cost of service study of the Robertsport Treatment Plant and the Kakata Outstation was conducted this past year, and a training program for LWSC.

7.6.3 SUPPORT TO NATIONAL LEVEL ENTITIES

LMWP continued its regular attendance at National Water, Sanitation and Hygiene Promotion Committee (NWSHPC) and USAID donor coordination meetings. LMWP provided detailed comments and feedback on 1st Liberia WASH Sector Performance Report and facilitated the annual WASH Sector Joint Sector Review including provision of funding for logistics, and served as active participant. LMWP team members participated in validation workshop of the Draft Drinking Water Quality Standards in Buchanan. LMWP now attends regular meetings of the WASH Ebola Task Force organized by NWSHPC.

7.6.5 USAID COORDINATION

Weekly standing meetings were held between LMWP and USAID/Liberia, and regular meetings were held between LMWP and LWSC when LWSC was available. These are in addition to other meetings with LWSC and USAID arranged as needed and regular telephone and email communications.

TABLE 7.7. TASK 7 ACCOMPLISHMENTS VS. YEAR 3 WORK PLAN

Task 7: Coordination with Other USAID Programs	Completion Status
Regular Coordination Meetings with USAID Programs	Ongoing

7.7 TASK 8 – PLANNING AND REPORTING

A summary of accomplishments versus Year 3 Work Plan for Task 8 is provided in Table 7.8.

LMWP Y3 Work Planning Workshop

Consistent with the Project’s overall objective, through an extensive stakeholder consultation and review process, each year, an annual work-plan is formulated, evaluated and agreed upon prior to implementation. To plan for the Project’s third year cycle, a strategic work-planning session was held on December 11, 2013 at the Terra Cotta Conference Room in Congo Town.

The objective of the session was to review the proposed LMWP Year 3 Annual Work-plan, allowing for stakeholder review and input. Having implemented Tasks 1-3, in Project Years 1 and 2, specific emphasis for Year 3 was placed on Tasks 4, 5 and 6, namely: Capital Works, Transitional Management of Water Supply Improvement and Capacity Building, respectively. The objective of this report is to highlight the emerging elements from the LMWP’s Year 3 Annual Work-planning session, as well as present the respective inputs and recommendations provided by various stakeholders prior to its finalization.

A key contributor to the initial design and implementation of the LMWP, **Mr. Anthony Kolb, USAID Health Advisor from USAID Washington** said that he was glad to be a part of the meeting and welcomed everyone to the planning session. Part of his visit to Liberia was to assess the progress made so far within the LMWP as well as help prepare the Mission for the arrival of Chris Holmes, USAID Global Water Coordinator, who is to visit Liberia in January 2014.

The **Managing Director of the LWSC, Honorable Charles Allen** noted that the work-planning session represented a crucial turning point leading to the more accelerated stage of Project implementation. The challenge, he cautioned, was to ensure that we do not make haste to go slowly but rather develop a careful and thoughtful plan that would deliver on results. He concluded by thanking the USAID for its immense support to water service delivery in Liberia.

A Work Planning Workshop was not held for Year 4 due to concerns related to Ebola. Instead, LMWP consulted with key stakeholders, particularly LWSC, in development of a draft Year 3 Work Plan, which was submitted in September 2014.

TABLE 7.8. TASK 8 ACCOMPLISHMENTS VS. YEAR 3 WORK PLAN

Task 8: Planning & Reporting	Completion Status
Environmental Mitigation and Monitoring Plan (EMMP)	Completed
Annual Progress Reporting	100%
Quarterly Progress Reporting	100%
Quarterly Procurement Plan Update	100%
Quarterly Financial Reporting	100%
Year 3 Draft Annual Work Plan	100%
Weekly Meetings with COR	Ongoing

8.0 PROJECT MANAGEMENT AND ADMINISTRATION

8.1 STAFFING

LMWP experienced a number of staffing changes in Year 3. Considering the need to focus on more specialized outreach efforts regarding water services using behavior change methods, LMWP decided to make changes in the Communications and Outreach Department. LMWP decided to take advantage of its contractual option for "dismissal without cause" to bid farewell to the Outreach Specialist, Trokon Tarr and Gender and Facilitation Specialists on November 15, 2013. We have worked with LWSC and developed the TOR to hire a Communications and Outreach Specialist with behavior change and social marketing skills. The person will be located full-time at LWSC.

Staff Engineers Dominic Gono and Sei Zumba resigned at the end of Q1 to take up positions with the LEC Mount Coffee Hydro Project. Part of the package provided them for the position included the pursuit of Graduate Engineering studies in Australia.

LMWP finalized the hiring of a Director of Administration and Finance in Q2Y3. Zizi Stevens (CCN) began work on March 17, 2014. This is a new position that was created to bolster administration and finance team and ensure compliance with USAID rules and regulations as well as Tetra Tech policies and procedures. However, the DAF services have been terminated with LMWP. We are working to hire a replacement.

LMWP finalized the hiring of a Procurement/Subcontracting Specialist, Justin Harris who began work on October 21, 2013. LMWP also filled out the vacant M&E Specialist position since August. Mr. Eric Lewis took over as M&E Specialist on December 9, 2013.

LMWP concluded recruitment for a Utility Operations and Institutional Strengthening Specialist (WUS) to provide direct support from within LWSC on capacity building, institutional development, and utility management and operations. Safaa Fakorede started work as WUS on April 5, 2014 and began working from the LWSC headquarters as a seconded staff in Q4.

LMWP also concluded recruitment of an engineer to be based in Sanniquellie along with the Richards Engineering engineer. The hiring of the top candidate, Jusu Holmes, previously initiated in Q2 was suspended due to delay in the construction works.

The Robertsport office was established in Y3 for the Pipeline Extension Project and will be further utilized as construction activities continue to the CIP. LMWP supported hiring of a LWSC seconded engineer, Ernest Giko, along with support staff including a security guard, Liaison Officer and Driver to be mobilized in Y4 Q1.

LMWP's engineer, James Kessele, was preparing to deploy to Voinjama, where he will join the Richards Engineering engineer, Moses Kollie, but this has been delayed due to Ebola.

LMWP is working with LWSC to recruit, and hire a Communication and Outreach (Behavior Change)/Social Marketing Specialist (CAO/BC/SM), and a Monitoring and Evaluation Specialist (M&E) to be seconded with the LWSC. The latter will support public outreach efforts and facilitate the transition to paying for piped water with populations in intervention sites, and to support head office oversight of outstations; while the former will support the establishment of the M&E unit at the LWSC in addition to assisting the LWSC in the management of the IDAMC. The development and finalization of the respective TORs have been completed in collaboration the LWSC and the USAID. The LWSC has opted to hire the M&E immediately, while the CAO/BC/SM) be suspended for a later date to be determined. These positions will be located at LWSC on a full-time basis and report directly to LWSC senior management; however, s/he will engage frequently with LMWP COP.

LMWP assisted LWSC to develop and advertise TOR for field engineers for each city, shortlist candidates and schedule interviews. As noted above, the process was concluded for the Robertsport engineer, while those for the Sanniquellie and Voinjama are pending USAID approval which is contingent on the commencement of construction works in the cities. The Terms of Reference was developed and published; five candidates were shortlisted and interviewed from each of the cities; with three being selected.

The LMWP Organizational Chart is presented in Figure 8.1.

8.2 PREPARATION FOR EXPANSION TO FIELD OFFICES

Robertsport Offices: With support from LMWP, the LWSC Robertsport Water Treatment Plant office is now fully furnished and operational, providing an ideal working environment for Plant Operators.

Renovation works have also been completed on the LMWP office premises in Robertsport, which has been staffed for now by LMWP's local field engineer from our subcontractor. The hiring process of an engineer, administrative assistant / community liaison, and driver was finalized Q4.

Sanniquellie and Voinjama Offices: We plan to staff up the field offices in Sanniquellie and Voinjama in the next year. We are currently co-locating with IWASH in Sanniquellie and have overtaken their rent in Voinjama since February. In Voinjama, LMWP has taken over the lease of IWASH offices as of February and plans are underway to have all Project field offices fully operational and staffed with a Field Engineer, a Senior Engineer and an Office Administrative Manager in Year 4, ahead of mini-system and CIP construction activities in the cities. Similarly, we have taken over the lease of the IWASH offices in Sanniquellie up to March 2015.

8.4 PROJECT MONITORING

LMWP finalized the hiring of a new M&E Specialist who began work on December 9, 2013. This void in the M&E position since the dismissal of the previous Specialist on August 2, 2013 has impacted some of the activities related to the finalization of the PMP and related reporting on the indicators through the L-MEP. Since coming onboard, the new M&E Specialist has worked with L-MEP to update the database targets and achievement indicators.

Monitoring and Evaluation efforts this year included the finalization of the PMP and ensuring that the household survey was carried out and data analyzed and report finalized. The conduct of the household survey and subsequent data analysis sets the basis for establishing baseline values for the project higher level indicators. LMWP also prepared for the data quality assessment (DQA) which was conducted by the Liberia Monitoring and Evaluation Program L-MEP which was conducted

8.4.1 PERFORMANCE MONITORING PLAN (PMP) REVISION/UPDATE

On January 02, 2014, USAID provided input and feedback on the revised Performance Monitoring Plan (PMP) submitted Q1. The updated version of the PMP was re-submitted to USAID on March 11, 2014 following series with USAID comments that were incorporated.

Final draft of the PMP was submitted to USAID in August for approval. In addition, LMWP has completed data entry in the Performance Indicator Data System (PIDS).

8.4.2 USAID DATA QUALITY ASSESSMENT (DQA)

Internal Data Quality Assessment

Since the hiring of the new M&E Specialist last December, the LMWP has been contending with the many backlog activities including the finalization of the PMP, conducting related reporting on the indicators, as well as updating database targets and achievement indicators through the Liberia Monitoring and Evaluation Program (L-MEP) Performance Indicator Data System (PIDS). During the second quarter, an internal data quality assessment was completed ahead of the broader USAID Project Data Quality Assessment (DQA) to be conducted early in Q3 by L-MEP.

USAID Data Quality Assessment

The Liberia Monitoring and Evaluation Program (L-MEP) conducted a DQA for the Liberia Municipal Water Project (LMWP) as part of USAID M&E requirements. The assessment included the following:

- M&E structures, functions, and capabilities;
- Indicator definitions and reporting guidelines;
- Data collection and reporting forms and tools;
- Data management processes and procedures—if documented - and
- Verification of actual data.

The process included site visits to Robertsport and Sanniquellie and concluded with a review of the M&E system as well as an L-MEP-led debriefing meeting held on June 5, 2014, at the LMWP's office in Monrovia. A DQA report is expected in Y4 Q1.

8.4.3 EPORT TRAINING

On March 5, 2014, Tetra Tech M&E Specialist Robynne Locke facilitated an internal training on the applicability and use of Tetra Tech's ePORT system, an electronic platform utilizing table computers which facilitates data collection and monitoring efforts relating to interventions in the field and houses all data in a cloud-based database.

Participants in the one-day training session included 11 LMWP staff, 4 engineers from the Project's sub-contractor Richards Engineering, and Engineer Samuel Yarkparwolo from LWSC. Mr. Yarkparwolo served as an enumerator during the LMWP Household Survey held from February 12-23rd in Robertsport.

8.4.4 HOUSEHOLD SURVEY

The project conducted an initial household survey in all three target cities in 2012, including assessment of baseline access to improved water and willingness and ability to pay. The purpose of this more refined survey, conducted in Robertsport, Voinjama, and Sanniquellie in early 2014, was to refine and update

baseline estimates, including a more detailed analysis of water sources self-reported by respondents as “improved”. This survey was also intended to gather more granular and geo-referenced data (the original local survey subcontractor did not have the capacity to conduct geo-referencing at the household level), and to serve as a means of community outreach and verification of the efficacy of past outreach efforts.

In February 2014, LMWP and Liberia Water and Sewer Corporation (LWSC) surveyed 524 Robertsport residents (>12 percent of population) and 27 water sources. This effort continued in May when the team surveyed additional households, 575 in Sanniquellie and 579 in Voinjama. Additionally, the team surveyed water sources that had not been previously analyzed as part of LMWP’s hand pump database development. A total of 151 additional water sources were surveyed in the three cities. The overall survey data collected from the three cities have been analyzed and a draft consolidated household survey report for the three counties was completed and circulated internally for review and comments.

The planning process included introductory and refresher trainings for past and new enumerators that took part in the data collection process in the two cities. Applying lessons learned from the initial round in Robertsport, modifications were made to the questionnaires to accommodate existing realities in the two cities. The team visited all 26 communities in Voinjama city and 21 in Sanniquellie.

The survey took into consideration all ethical issues, including confidentiality and privacy, and ensured that these were respected. A total of 23 enumerators from LWSC, LMWP, and the local steering committees from Voinjama and Sanniquellie formed part of the enumeration team and facilitated the data collection during the month-long exercise in the two cities.

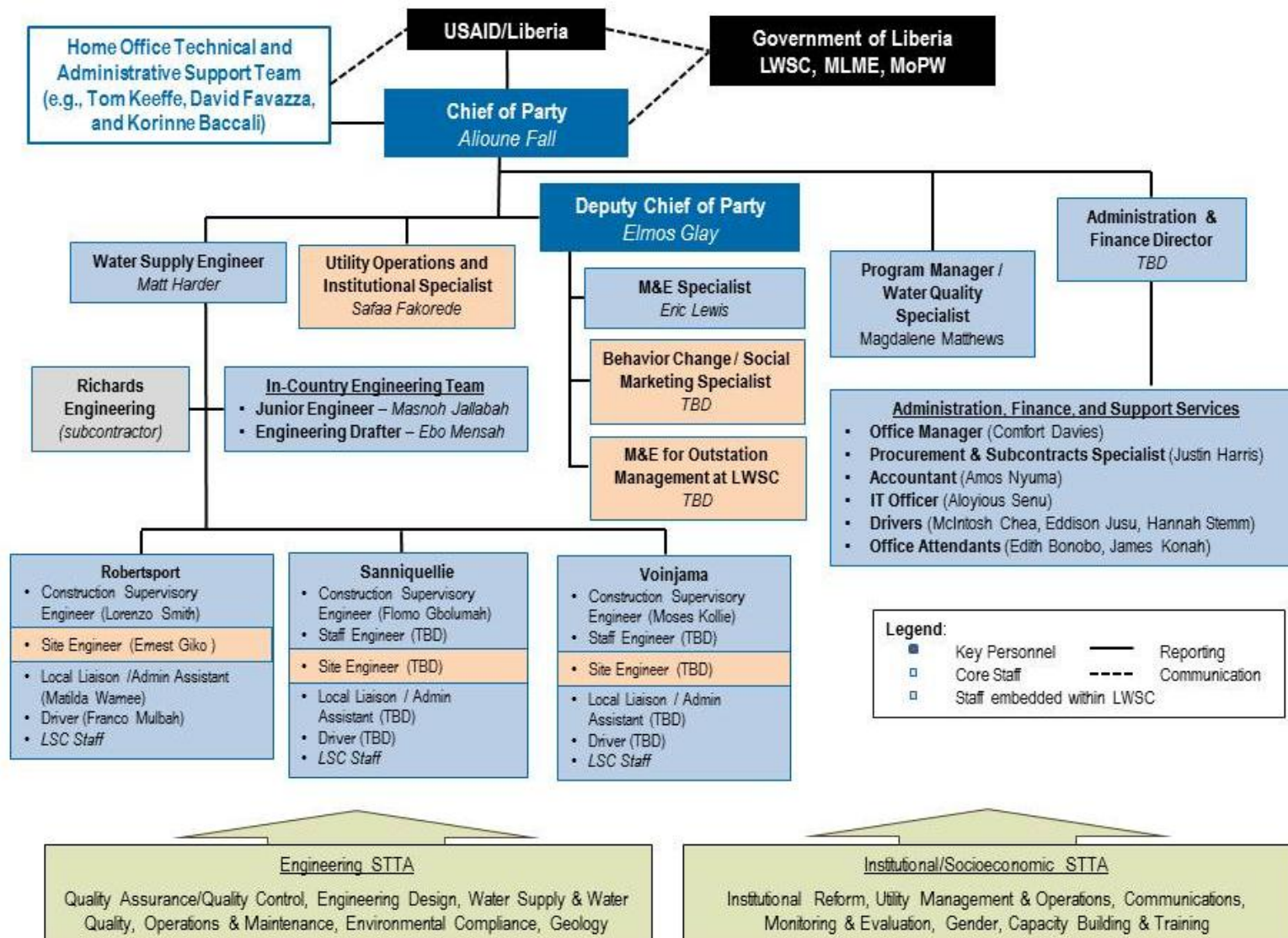
TABLE 8.1. LIST OF ENUMERATORS PARTICIPATING IN HOUSEHOLD SURVEY

City	# of Enumerators	Organization
Robertsport	6	LWSC (2) , LMWP (3), RLSC (1)
Voinjama	9	LWSC (1) , LMWP (6), VLSC (2)
Sanniquellie	8	LWSC (1) , LMWP (6) , SLSC (1)
Total	23	

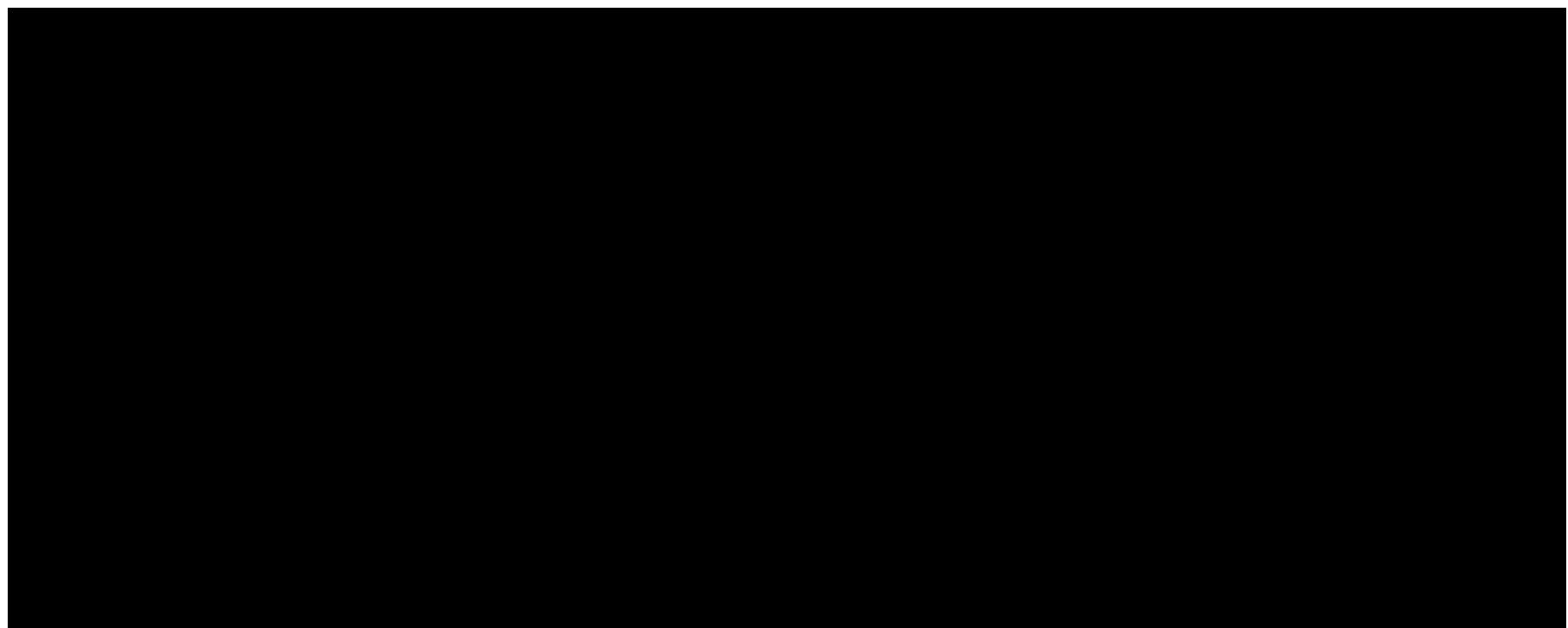
The household survey efforts were intended to result in the creation of a robust geographic information system (GIS) database of current sources of water supply in each town, including geo-referenced photos of each, establishing their improved/unimproved status, collecting perceived water quality from respondents, and further enhancing information within the existing hand-pump database.

A report summarizing the survey findings is being finalized and will be submitted to USAID.

FIGURE 8.1. LMWP ORGANIZATIONAL CHART AT END OF YEAR 3



ANNEX A: ANNUAL FINANCIAL STATUS REPORT, Q4 FINANCIAL REPORT



ANNEX B: BIBLIOGRAPHY

Document	Date
PowerPoint presentation to Liberia Health Team	9/25/2014
USAID 'Snapshot' regarding Robertsport Construction despite Ebola (Approval Received)	9/24/2014
Draft Y4 Annual Work Plan	9/19/2014
Evacuation Contingency Plan related to Ebola (Revised based on USAID comments)	9/19/2014
Revised Performance Monitoring Plan (PMP) and memo response to USAID's comments on previous draft	8/30/2014
Capital Improvement Project (CIP) Bid Package Documents (current RFP with questions for CO, Environmental Attachments J.4 and J.5, Bid Schedule)	8/28/2014
Draft Evacuation Contingency Plan related to Ebola	8/27/2014
LMWP response to questions raised by USAID regarding Ebola in its letters to Implementing Partners dated August 6 and 11, 2014	8/14/2014
Environmental and Social Impact Assessment (ESIA) – USAID Final Approval Received including approvals from Mission, Region, and DC	8/11/2014
LMWP-Cities Memoranda of Understanding (Voinjama and Sanniquellie)	7/23/2014
Capital Improvement Project (CIP) documents re-submission including revised BODR, cost estimates	7/7/2014
Resource Mapping Tool for LMWP as requested by USAID via GoL	6/10/2014
Draft Internally Delegated Area Management Contract (IDAMC) Template	5/8/2014
Suggested modifications to Draft USAID-GOL Implementation Letter	5/5/2014
Sustainability Monitoring Plan (Revised per USAID comments provided 4/15/2014)	4/25/2014
Sustainability Monitoring Report Template	4/25/2014
Local Business Plan Template	4/25/2014

Outstation Audit Report Template	4/25/2014
Robertsport O&M Manual (Revised for Pipeline Extension)	4/25/2014
Draft Sustainability Monitoring Plan	4/15/2014
Draft RFP for Capital Improvement Project (CIP) and ESIA Summary for inclusion with RFP	4/7/2014
Final Liberia EPA construction permits for Voinjama, Robertsport, and Sanniquellie (by Liberia EPA, based on LMWP ESIA and LMWP comments on draft permits)	4/4/2014
Revised Year 3 Work Plan and Memo response to USAID's 3/11/2014 Comments	3/27/2014
Environmental Review Form for Mini-Systems	3/26/2014
Draft Liberia EPA construction permits for Voinjama, Robertsport, and Sanniquellie (by Liberia EPA)	3/24/2014
Revised Mini-Systems BODR incorporating USAID comments	3/24/2014
LMWP-Cities Memorandum of Understanding (Robertsport)	3/23/2014
Written clarifications to issues raised by USAID on Mini-Systems Designs	3/17/2014
Revised Performance Monitoring Plan (PMP) and Memo response to USAID's comments on previous version	3/11/2014
Mini-Systems Documents for Voinjama and Sanniquellie (procurement costs, bid schedules, BODR, design drawings, tender documents)	3/3/2014
Revised Year 3 Work Plan (revised after December Work Planning Workshop)	2/26/2014
Capital Improvement Project (CIP) "Issued for Bid" Plans, Specifications, BODR	2/6/2014
Mini-Systems (Sanniquellie and Voinjama) "Issued for Bid" Plans, Specifications, BODR	2/10/2014
Environmental and Social Impact Assessment (ESIA) report submitted to Liberia EPA	2/12/2014
Draft Environmental and Social Impact Assessment (ESIA)	1/22/2014
Mini-Systems (Sanniquellie and Voinjama) Plans and Specifications	1/20/2014
Draft Capital Improvement Project (CIP) Tender Documents	1/19/2014

LMWP "Fact Sheet" for Global Water Coordinator visit	1/9/2014
Memorandum responding to USAID Engineer's 2 nd Round of Comments following October 2013 visit and review of September submittal	1/7/2014
CIP and Mini Systems cost estimates, broken out separately	12/19/2014
Potential mini system bidder's list of Liberia Construction Contractors.	12/12/2014
Draft Mini Systems Scope of Work	12/12/2014
Draft 611e certification document	12/10/2013
Revised Cost Benefit Analysis (CBA) for CIP per USAID request of 11/23/2013	12/4/2013
CIP Final Submission (RFP, BODR, Drawings, Specifications) incorporating USAID comments	12/2/2013
Performance Monitoring Plan (PMP)	10/15/2013
REGULAR REPORTING	
USAID Weekly Meeting Minutes / Weekly Report	Weekly (Approx.)
Construction Monthly Reports	Monthly, Starting Jan 2014
Y3 Draft Work Plan	8/31/2014 (Submitted Y2)
Quarterly / Annual Progress Reports	1/31/2014 (Q1) 5/2/2014 (Q2) 8/7/2014 (Q3) 11/4/2013 (Q4/Annual)
Quarterly Financial Reports (Accruals)	12/11/2013 (Q1) 3/19/2014 (Q2) 6/13/2014 (Q3) 9/11/2014 (Q4)

ANNEX C:

TECHNICAL ASSISTANCE ACTIVITIES

Name Role	Start Date Days of LOE	Summary Achievements
Jessica Bennett <i>Accountant</i>	October 6, 2013 7 Days	<ul style="list-style-type: none"> Trained new accountant on Tetra Tech accounting procedures and QuickBooks software, and provided additional financial training to the LMWP accounting unit. Follow up on remaining outstanding financial items from internal compliance audit.
Thomas Keffe <i>Engineering Support (Sr. Civil Engineer)</i>	October 13, 2013 14 Days	<ul style="list-style-type: none"> Reviewed Capital Improvement Project (CIP) and Mini-Systems designs specifications, and Basis of Design Report (BODR) with USAID, its visiting engineer from USAID/Ghana, LWSC, and the Engineering Working Group. Coordinated with Monrovia Office and USAID regarding CIP and Mini System tendering and construction methodology and schedule, requirements of continuing USAID engineering support and LWSC coordination, and related refinements to the Draft Year 3 Work Plan. Reviewed current status of Robertsport facility operations including O&M manual, staffing, revenue collection, and data collection/quality and reporting systems including water quality and metering. Mentoring and on-the-job training of LMWP engineers on design calculations, drawings, field sampling techniques and software including hydraulic modeling.
Natalie Brown <i>Engineering Support (Sr. Civil Engineer)</i>	November 2, 2013	<ul style="list-style-type: none"> Supported Sustainable Water and Sanitation in Africa (SUWASA) workshop on cost of service and tariffs, and led detailed training on cost of service model for LWSC and LMWP staff. Coordinated with SUWASA staff on integration of capacity building and institutional strengthening activities related to cost of service and tariff model development and implementation into LMWP moving forward. Provided mentoring and on-the-job training of LMWP and LWSC staff regarding cost of service estimation and tariff setting process.
Thomas Keffe <i>Engineering Support (Sr. Civil Engineer)</i>	December 3, 2013, 12 days	<ul style="list-style-type: none"> Planned and participated in the LMWP Work Planning Workshop, including internal team work planning prior to workshop and subsequent meetings with AfDB and LWSC after workshop Reviewed Capital Improvement Project (CIP), and Basis of Design Report (BODR) in detail with LWSC and EWG, including updates based on comments
David Favazza <i>Sr. Technical Advisor/Manager (Sr. Civil Engineer)</i>	December 7, 2013, 8 days	<ul style="list-style-type: none"> Planned and participated in the LMWP Work Planning Workshop, including internal team work planning prior to workshop and subsequent meetings with AfDB and LWSC after workshop Supported identification of contracting mechanism for “mini-systems” Continuing and follow-up support to recent Monitoring & Evaluation (M&E) STTA (Robynne Locke) to revise Performance Monitoring Plan (PMP). Supported planning for the proposed new in-country household and water source survey and discussed plans and schedule for field work with LMWP Monrovia staff. Coordinated with COP and in-country team regarding technical, management, and staffing aspects of the project including challenges, home office support needs, and schedule and follow up re ongoing efforts to hire Administration and Finance Director and Utility Operations and Institutional Support Specialist.

Name Role	Start Date Days of LOE	Summary Achievements
John Butler <i>Institutional Specialist (Sr. Economist)</i>	December 8, 2013, 7 days	<ul style="list-style-type: none"> Planned and participated in the LMWP Work Planning Workshop, including internal team work planning prior to workshop and subsequent meetings with AfDB and LWSC after workshop Working with DCOP, assisted the development of revised Work Plan for Task 5 (Transitional Management) and Task 6 (Capacity Building), including cost estimation for activities. Provided follow up technical advisory support to LMWP with regard to recent SUWASA technical assistance activities that were provided.
Natalie Brown Engineering Support (Sr. Civil Engineer)	March 2014	<ul style="list-style-type: none"> Reviewed data collection methods and recording of current Robertsport water system, as well as LWSC operations to evaluate progress since the November 2013 Cost of Service and Tariff workshop with LMWP and LWSC; Defined plans for continuing coordination with SUWASA and LMWP follow-on work, including working with LWSC on data collection and conducting a refresher training; Coordinated with LMWP COP and Lead Engineer (LE) regarding technical, management, and staffing aspects of project related to engineering and construction, including challenges, home office (HO) support needs, and schedule. Assisted USAID and project stakeholders in reviewing draft RFP documents and associated tender documents. Continued mentoring efforts and on-the-job training of LMWP engineers with regard to tariff and cost recovery issues, standard engineering practices, and software and IT support for engineering applications. Provided facilitation support during follow-up "1-on-1" sessions between Construction Contracting training facilitation consultants, LWSC, and USAID regarding implementation of USAID contracting requirements for LMWP. Participated in internal LMWP meetings with COP, other LMWP staff, and visiting STTA to ensure provision of requisite STTA and other Home Office (HO) support for completion of Work Plan activities; Followed up and provided support for detailed planning and development for upcoming activities and deliverables.
Robynne Locke Monitoring & Evaluation Specialist	March 03, 2014 11 Days	<ul style="list-style-type: none"> Met with LMWP staff, visiting STTA and USAID to resolve remaining issues with PMP, and incorporated input and feedback into updated version for USAID review and approval; Worked with LMWP staff, visiting STTA, L-MEP, and USAID to plan for operationalization of approved PMP; Provided additional training to LMWP M&E Specialist on mobile technology-based system (ePORT) for field data collection and reporting; Provided oversight of ongoing household survey implementation; Supported preliminary analysis of completed household surveys;
Dave Favazza Sr. Technical Advisor/Manager (Sr. Environmental Engineer)	March 16, 2014 6 Days	<ul style="list-style-type: none"> Reviewed revised PMP with LMWP staff, STTA, and USAID and supported revisions and refinements of indicators and targets. Reviewed Work Plan feedback with USAID and discussed modifications. Worked with DCOP and other LMWP staff on finalizing details of capacity building plan, including finalization of course outlines and refinement of learning objectives, participants, and needed resources. Provided logistical and technical support to Construction Contracting training course, and participated in "1-on-1" sessions with Construction Contracting training facilitation consultants, LWSC, and USAID. Participated in internal LMWP meetings with COP, other LMWP staff, and visiting STTA to ensure provision of requisite STTA and other HO support for completion of Work Plan activities. Followed up and provided support for detailed planning and developing for upcoming activities and deliverables.

Name Role	Start Date Days of LOE	Summary Achievements
Geoffrey Katushabe Organizational Strengthening Specialist (Administrative Specialist/Support)	April 01, 2014 18 Days	<ul style="list-style-type: none"> • Followed up and provided support on implementation of modifications and improvements resulting from internal audit including administrative systems (e.g., filing and inventory), financial management, and accounting systems and trained staff as required. • Trained newly hired Director of Administration and Finance (DAF) (Zizi Stevens), including provision of and introduction to Tetra Tech technical, financial, and accounting systems and processes. • Provided training to new staff on Tetra Tech, LMWP, and USAID administrative, procurement and financial procedures, including Procurement/Subcontracts Specialist (Justin Harris), Accountant (Benedictus Kun), and Comfort Davies (Office Manager, new role), and M&E Specialist (Eric Lewis). • Reviewed status of LMWP field accounting and provided additional QuickBooks follow-up training to LMWP accounting staff. • Supported Finance and Administration unit and with new DAF jointly developed procedures for managing field offices outside of Monrovia, including oversight, accounting, filing systems, and reporting. • Worked with COP to review performance of previous modifications to procurement procedures, hiring procedures, inventory control systems, and other policies and procedures, and discussed possible additional modifications and improvements.
Jasmine Wilkins Project Manager* (Administrative Specialist/Support) *Note: Travel and expenses paid out of Tetra Tech overhead	April 05, 2014 10 Days	<ul style="list-style-type: none"> • Met LMWP team and learned about field office roles and responsibilities as well as collaboration/coordination between field and home offices. • Established working relationships with LMWP team, operations and technical staff. • Facilitated transition between Home Office Project Managers. • Worked closely with seasoned Tetra Tech Organizational Strengthening Specialist, Geoffrey Katushabe, as he conducted training and provided STTA on administration and finance policies and procedures. • Assisted Tetra Tech Organizational Strengthening Specialist with follow-up and support on implementation of modifications and improvements resulting from internal audit including administrative systems (including filing and inventory), financial management, and accounting systems and trained staff as required. • Participated in regularly scheduled meetings with LMWP team, USAID, and Liberia Water and Sewer Corporation (LWSC).

Name Role	Start Date Days of LOE	Summary Achievements
Andrew Woodcock Senior Project Manager (Civil Engineer – Senior)	May 17, 2014 15 Days	<ul style="list-style-type: none"> Reviewed background materials provided by LMWP related to previous and ongoing work related to facilities design, cost estimation, staffing needs, and other relevant information, and take part in a briefing provided by Tetra Tech home office staff working on LMWP. Met with LMWP field staff and USAID to review and discuss planned training on development, implementation, monitoring, and continuous evaluation of utility business and other relevant plans. Met with LWSC, African Development Bank (AfDB), and others, in consultation with COP and USAID, regarding scheduled business planning trainings and subsequent business plan development. Developed and administered interactive multi-day training workshop on business plan development and implementation for LWSC Head Office, LWSC Outstation Management Teams of Robertsport and Kakata, available representatives from other LWSC target cities, and Local Steering Committee (LSC) members from LWSC target cities. LMWP field staff also participated in training workshop as part of internal capacity building efforts. Engaged LWSC Outstation Management Teams, specifically for Robertsport and Kakata, in working sessions to develop basis of business plans for respective outstations. Attended regular meetings with LWSC and USAID and reported on progress related to business planning.
Natalie Brown Project Manager, Engineering Support (Civil Engineer – Senior)	June 10, 2014 17 Days	<ul style="list-style-type: none"> Coordinated with COP and engineering and institutional team members with regard to cost of service and tariff setting process and work planning. Conducted training for LMWP project beneficiaries relative to Cost of Service, Tariff Analysis, Sustainability Analysis/ Monitoring and Sustainability Reporting Coordinated with WSE, WUS, and COP regarding technical, management, and staffing aspects of the project related to engineering and construction, including challenges, home office support needs, and schedule. Provided overall engineering and technical support to the engineering office and field teams. Reviewed with LMWP field staff and LWSC the data collection methods and recording of the current Robertsport water system, as well as LWSC operations to evaluate progress since the November 2013 Tariff Workshop Finalized plans for continuing coordination with SUWASA and LMWP on follow-on work including working with LWSC on data collection and tariff setting methodology and guidelines. Continued mentoring efforts and on-the-job training of LMWP field engineers with regard to tariff and cost recovery issues, standard engineering practices and software and IT support for engineering applications.

Name Role	Start Date Days of LOE	Summary Achievements
Paul Harris Contracts Manager (Program Manager – Mid)	June 17, 2014 5 Days	<ul style="list-style-type: none"> • Followed up on trip conducted in July 2013 and provided subcontracting support to recently hired Procurement/Subcontracts Specialist (Justin Harris) in accordance with Tetra Tech's Local Procurement Handbook, updated January 2014, and USAID/FAR Regulations. • Provided contractual support to COP on matters requiring contract preparation and approvals. Ensured compliance with weekly/monthly reporting requirements and submission of reports on a regular basis. • Reviewed subcontract file documentation and filing system (hard copy, electronic) for completeness per the Subcontracts Checklist. Provided recommendations on improving documentation and filing system if necessary. • Provided additional support to LMWP field staff regarding subcontracts required to support the Mini-Systems currently in procurement stage, especially follow-up on the Request for Consent submitted to USAID. • Co-facilitated presentation on Code of Conduct and Foreign Corrupt Practices Act (FCPA) as part of Tetra Tech established policies and requirements. • Provided contractual support for the SUWASA-funded subcontract with Pump and Tank.

ANNEX D:

LIST OF IN-COUNTRY EVENTS, COURSES AND SEMINARS ORGANIZED

Location	Date	Event Type	Audience	Purpose and Objectives	Total number of participants	Female	Male
Monrovia	October 26, 2014	Ebola awareness training	LMWP Staff	To raise LMWP staff awareness regarding Ebola prevention	14	4	10
Monrovia	July 23, 2014	TWG 9		To sign MOUs between LWSC and the local cities of Voinjama and Sanniquellie, and to give progress update on LMWP activities and the discussion of next steps.	37	10	27
Robertsport	June 23-24, 2014	Basic Outstation Water Quality Monitoring Training	LWSC and LMWP Staff	To train LWSC Staff in Outstation management in water quality monitoring skills and techniques	5	0	5
Monrovia	June 17-18, 2014	Cost of service and sustainability monitoring	Staff of LWSC, LMWP and LSC	To build the financial and commercial capacity of LWSC to establish cost of service & set cost reflective tariffs.	16	5	11
	June 12-13, 2014	Basic Outstation Water Quality Testing and Monitoring Training	LWSC Outstation Staff	To train LWSC outstation staff in basic Water Quality Testing and Monitoring	10	2	8
Monrovia	June 6, 2014	Health & Safety, Environmental compliance	LMWP and LWSC staff	To train LMWP and LWSC staff in health and safety and environmental compliance	27	5	22
Monrovia	June 5, 2014	Operations and maintenance training	LWSC, LSCs, and LMWP Staff	To equip outstation engineers and site managers with the necessary skills and techniques to effectively manage LWSC Outstations operations and maintenance activities.	40	8	32
Monrovia	June 4, 2014	Construction Management	LMWP Staff	Train LMWP staff/engineers in construction management skills and techniques.	13	3	10
Robertsport	May 28-29, 2014	Follow up business plan development training	LWSC outstation staff	To train LWSC Outstation staff in business plan development	11	1	10

Monrovia	May 27-28, 2014	Follow up business plan development training	LWSC Outstation Staff	To train Outstation staff in business plan development for Outstation management	17	5	12
Gbarnga	May 22-23, 2014	Business plan development training	LWSCs and LSCs	To train LWSC Staff in business plan development	31	7	24
Gbarnga	May 21, 2014	IDAMC, Financial Guidelines Training	LMWP, LWSC, and LSCs	To present to LSCs and LWSC the draft IDAMC template and get feedback for finalization. Finalize the financial procedures draft guidelines to be included in the IDAMC appendices.	33	7	26
Monrovia	May 5, 2014	First Aid Training		To give staff basic knowledge on first aid	20	5	15
Robertsport	April 18, 2014	DQA		The DQA is intended to assess all data reported to USAID In order to determine it accuracy, origin and reliability.	11	3	8
Robertsport	April 1, 2014	Outstation Monitoring and Evaluation Visit		This was the initial monthly M&E visit intended to assess key performance indicators as relates to the operation and maintenance of the Robertsport water treatment plant. These included technical, commercial and financial performance indicators.	15	4	11
Gbarnga	March 17-20, 2014	Computer and report writing training	LSC members, LWSC Staff, and support staff of LMWP	To train LSC members, LWSC out station staff, and support staff of LMWP in basic report writing and computer application skills.	30	10	20
Monrovia	March 6, 2014	Eport training	LMWP & LWSC Staff	ePORT training for staff of LWSC will improve their capacity to track daily sales and manage the outstations	4	0	4
Sanniquellie	March 5-6, 2014	Field investigation		Water quality supply	12	4	5
Monrovia	January 9, 2014	TWG Meeting 8		To present to LSCs and other TWG members LMWP year 3 workplan	60	11	49
Monrovia	November 6, 2013	Cost of Service Tariffs Training	LWSC	To train LWSC members in cost of service tariffs	8	2	6

Monrovia	October 9, 2013	Joint Wash Social Marketing Meeting		Meeting with PSI, MOHSCU, and IWASH to discuss social marketing.	11	1	5
Sanniquellie	October 4, 2013	Mango Island Community Meeting		To raise awareness of LMWP amongst community members	55	38	17
Monrovia	March 6, 2014	Eport training	LMWP & LWSC Staff	ePORT training for staff of LWSC will improve their capacity to track daily sales and manage the outstations	4	0	4

ANNEX E:
LIST OF EQUIPMENT AND MATERIALS
PURCHASED
COMPLETE PROJECT HISTORY

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00001	Satellite Phone Iridium 9555 with (chargers, USB cable, carrying case, earpiece, CD, and international plug kit)	300015010736310	\$1,310.46	\$1,310.46	Roadpost USA Inc	1-Nov-11	HO PO #1078608
1	00002	Laptop Computer HP Probook 4530s	CNU1375K87	\$555.00	\$555.00	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00003	Laptop Computer HP Probook 4530s	CNU1374ZYX	\$555.00	\$555.00	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00004	Laptop Computer HP Probook 4530s	CNU13759X3	\$555.00	\$555.00	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00005	Laptop Computer HP Probook 4530s	CNU13759QB	\$555.00	\$555.00	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00006	Laptop Computer HP Probook 4530s	CNU13751QN	\$555.00	\$555.00	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00007	Laptop Computer HP Probook 4530s	CNU137535G	\$555.00	\$555.00	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00008	Workstation Computer HP Z210	2UA12315YQ	\$1,010.00	\$1,010.00	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00009	Workstation Computer HP Z211	2UA123160J	\$1,010.00	\$1,010.00	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00010	Workstation Computer HP Z212	2UA123160S	\$1,010.00	\$1,010.00	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00011	Workstation Computer HP Z213	2UA13405VF	\$1,010.00	\$1,010.00	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00012	LCD Monitor HP / Compaq LE2002X 20"	CNC1381G2X	Include d with ARD #00008	Included with ARD #00008	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00013	LCD Monitor HP / Compaq LE2002X 20"	CNC1381G2T	Include d with ARD #00009	Included with ARD #00009	Planson International Corporation	1-Nov-11	HO PO #1078789

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00014	LCD Monitor HP / Compaq LE2002X 20"	CNC1381G39	Include d with ARD #00010	Included with ARD #00010	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00015	LCD Monitor HP / Compaq LE2002X 20"	CNC1381G2Z	Include d with ARD #00011	Included with ARD #00011	Planson International Corporation	1-Nov-11	HO PO #1078789
1	00042	Printer HP Laserjet 2055	CNC1805977	\$850.00	\$850.00	Beever Communication Inc.	22-Dec-11	DV 00022
1	00046	Huawei Wireless Internet	21500812338W15000596	\$648.00	\$648.00	Lonestar Cell Communications	10-Jan-12	DV 00046
1	00083	Conference Table	n/a	\$725.00	\$725.00	Beever Communications Inc.	6-Feb-12	DV 00092
1	00084	Air Condition 18000 BTU Split Unit	123050884300B5090001	\$700.00	\$700.00	HOMELINE INC.	6-Feb-12	DV 00083
1	00085	Air Condition 18000 BTU Split Unit	123050884300B5090014	\$700.00	\$700.00	HOMELINE INC.	6-Feb-12	DV 00083
1	00086	Air Condition 18000 BTU Split Unit	123050884300B5090005	\$700.00	\$700.00	HOMELINE INC.	6-Feb-12	DV 00083
1	00087	Air Condition 18000 BTU Split Unit	123050884300B5090004	\$700.00	\$700.00	HOMELINE INC.	6-Feb-12	DV 00083
1	00088	Air Condition 12000 BTU Split Unit	123032707600B1140044	\$550.00	\$550.00	HOMELINE INC.	6-Feb-12	DV 00083
1	00089	Air Condition 12000 BTU Split Unit	123032707600B1140040	\$550.00	\$550.00	HOMELINE INC.	6-Feb-12	DV 00083
1	00090	Air Condition 12000 BTU Split Unit	123032707600B1140047	\$550.00	\$550.00	HOMELINE INC.	6-Feb-12	DV 00083
1	00091	Air Condition 12000 BTU Split Unit	123032707600B1140061	\$550.00	\$550.00	HOMELINE INC.	6-Feb-12	DV 00083
1	00128	Tool Box Complete	n/a	\$550.00	\$550.00	Eagle Electrical Corp.	18-Feb-12	PO 00010
1	00132	Diesel Generator 5KVA Kama	KM2011090100756	\$1,500.00	\$1,500.00	Sethi Brothers Inc.	20-Feb-12	PO 00016

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00133	Diesel Generator 5KVA Kama	KM2011050100222	\$1,500.00	\$1,500.00	Sethi Brothers Inc.	20-Feb-12	PO 00016
1	00134	Diesel Generator 5KVA Kama	KM20110901100618	\$1,500.00	\$1,500.00	Sethi Brothers Inc.	20-Feb-12	PO 00016
1	00145	Laptop Computer Lenovono Thinkpad	LR-9ETC012/02	\$535.48	\$535.48	CDW DIRECT LLC	29-Feb-12	HO PO 1082003
1	00146	Laptop Computer Lenovono Thinkpad	LR-9ETW4 12/02	\$535.48	\$535.48	CDW DIRECT LLC	29-Feb-12	HO PO 1082003
1	00153	Laptop Computer Lenovono Thinkpad	LR-9ETA6 12/02	\$535.48	\$535.48	CWD DIRECT LLC	21-Mar-12	HO PO 1082004
1	00154	Laptop Computer Lenovono Thinkpad	LR-9ETP0 12/02	\$535.48	\$535.48	CWD DIRECT LLC	21-Mar-12	HO PO 1082004
1	00155	Laptop Computer Lenovono Thinkpad	LR-9ETF4 12/02	\$535.48	\$535.48	CWD DIRECT LLC	21-Mar-12	HO PO 1082004
1	00156	Laptop Computer Lenovono Thinkpad	LR-9ETF2 12/02	\$535.48	\$535.48	CWD DIRECT LLC	21-Mar-12	HO PO 1082004
1	00157	CPU Workstation Computer Lenovono Thinkpad	1S3133A8UMJHGPPV	\$585.99	\$585.99	CWD DIRECT LLC	21-Mar-12	HO PO 1082004
1	00158	CPU Workstation Computer Lenovono Thinkpad Keyboard	0002199	included with ARD #00155	included with ARD #00155	CWD DIRECT LLC	21-Mar-12	HO PO #1082004
1	00169	Flow probe FP 111 3' - 6'	1213002422	\$742.90	\$742.90	OI Corporation	22-Mar-12	HO PO #1082599
1	00189	Projector BENQ	PD36B01423000	\$750.00	\$750.00	Office Ideas	16-Apr-12	PO 00025
1	00193	Generator 45KVA Perkins	U267488V	\$15,160.00	\$15,160.00	Power Tech, Inc.	27-Apr-12	DV 204
1	00194	Printer, Scanner and Photocopier Canon iSensys MF 4570dn	HAU06392	\$1,049.00	\$1,049.00	Lion Stationery Store	1-May-12	PO 00030
1	00199	V-SAT	n/a	\$7,673.00	\$7,673.00	Power Tech, Inc.	10-May-12	DV 252
1	00208	TOYOTA LAND CRUISER LX-10 HARD TOP JEEP	JTGEB73J3C9008951	\$47,720.00	\$47,720.00	KJER KJER	13-Jun-12	PO 0018

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00209	TOYOTA LAND CRUISER LX-10 HARD TOP JEEP	JTGEB73J2C9008407	\$47,720.00	\$47,720.00	KJER KJER	13-Jun-12	PO 0018
1	00210	TOYOTA LAND CRUISER LX-10 HARD TOP JEEP	JTGEB73J0C9008972	\$47,720.00	\$47,720.00	KJER KJER	13-Jun-12	PO 0018
1	00211	TOYOTA LAND CRUISER LX-10 HARD TOP JEEP	JTGEB73J1C9008950	\$47,720.00	\$47,720.00	KJER KJER	13-Jun-12	PO 0018
1	00212	Workstation Computer Lenovo	CMJLHXNK1S782456U	N/A	N/A	N/A	N/A	N/A
1	00213	Workstation Computer Lenovo	11SOA68710ZVJ6BP22 S12F	N/A	N/A	N/A	N/A	N/A
1	00214	Auto CAD Civil 3D 2013 Software	371-58713875	N/A	N/A	N/A	N/A	N/A
1	00215	Auto CAD Civil 3D 2013 Software	371-58713878	N/A	N/A	N/A	N/A	N/A
1	00216	Monitor Screen 23"Dell Flat	CN-0855R7-72872-215-A691	\$650.00	\$650.00	Office Ideas	10-Jul-12	PO 0043
1	00217	Monitor Screen 23"Dell Flat	CN-0885R7-72872-215-AEUI	\$650.00	\$650.00	Office Ideas	10-Jul-12	PO 0043
1	00218	HANNA HI 98140 PH Meter Calibration Check	08519533	N/A	N/A	N/A	N/A	HO PO 1085610
1	00263	APC Smart UPS 1500 LCD	AS12088222908	\$557.06	\$557.06	CWD DIRECT LLC	16-Nov-12	HO PO #1088698
1	00282	Bufallo Terastation Pro Duo Network Attached Storage Device	95835320700013	\$691.00	\$691.00	Plason International Coporation	16-Nov-12	HO PO #1087822
1	00283	Printer HP Color Laserjet cp 5525DN	JPCCD8M1M3	\$2,327.00	\$2,327.00	Plason International Coporation	16-Nov-12	HO PO #1087822
1	00284	Scanner HP Scanjet N6350 Network	CN26CCE0BD	\$800.00	\$800.00	Plason International Coporation	16-Nov-12	HO PO #1087822
1	00285	Laptop Computer Dell Latitude E6520	GW73LVI	\$1,699.00	\$1,699.00	INSIGHT	16-Nov-12	HO PO #1088695
1	00286	Laptop Computer Dell Latitude E6521	J8B3LVI	\$1,699.00	\$1,699.00	INSIGHT	16-Nov-12	HO PO #1088695

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00291	Office Chair Executive High Back	n/a	\$525.00	\$525.00	Lion Stationery Store	9-Jan-13	PO # 00068
1	00292	Office Chair Executive High Back	n/a	\$525.00	\$525.00	Lion Stationery Store	9-Jan-13	PO # 00068
1	00322	Conference Table	n/a	\$1,100.00	\$1,100.00	D&G Office Depot	18-Mar-13	PO # 0082
1	00325	Poly Tank	n/a	\$550.00	\$550.00	Building Materials Center	17-Apr-13	PO # 0088
1	00351	Laptop Computer Dell	56KVVN1	\$2,296.26	\$2,296.26	INSIGHT	6-Jun-13	HO PO #1095298
1	00363	Ipad Model MC959LL/A	DR5KX0U2DFJ1	\$520.44	\$520.44	Insight	26-Aug-13	HO PO #1097999
1	00364	Ipad Model MC959LL/A	DR5KX15VDFJ1	\$520.44	\$520.44	Insight	26-Aug-13	HO PO #1097999
1	00365	Ipad Model MC959LL/A	DR5KX0T2DFJ1	\$520.44	\$520.44	Insight	26-Aug-13	HO PO #1097999
1	00366	Ipad Model MC959LL/A	DR5KX0W7DFJ1	\$520.44	\$520.44	Insight	26-Aug-13	HO PO #1097999
1	00370	Ipad Model MC959LL/A	DR5KX104DFJ1	\$520.44	\$520.44	Insight	28-Aug-13	HO PO #1097999
1	00371	Ipad Model MC959LL/A	DR5KX099DFJ1	\$520.44	\$520.44	Insight	28-Aug-13	HO PO #1097999
1	00372	Ipad Model MC959LL/A	DR5KX0X1DFJ1	\$520.44	\$520.44	Insight	28-Aug-13	HO PO #1097999
1	00373	Ipad Model MC959LL/A	DR5KX04LDFJ1	\$520.44	\$520.44	Insight	28-Aug-13	HO PO #1097999
1	00406	LCD Monitor Screen	CN05-MWNN-64180-324-OVHB	Include d with ARD # 00427	Included with ARD # 00427	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00407	LCD Monitor Screen	CN05-MWNN-64180-322-OBUB	Include d with ARD # 00428	Included with ARD # 00428	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00408	LCD Monitor Screen	CN05-MWNN-64180-3N-OX2B	Include d with ARD # 00429	Included with ARD # 00429	Metroe Stationery Store	27-Jan-14	PO#002-14

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00409	LCD Monitor Screen	CN05-MWNN-64180-324-24MB	Include d with ARD # 00430	Included with ARD # 00430	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00410	LCD Monitor Screen	CN05-MWNN-64180-324-00TB	Include d with ARD # 00431	Included with ARD # 00431	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00411	LCD Monitor Screen	CN05-MWNN-64180-324-OCZB	Include d with ARD # 00432	Included with ARD # 00432	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00412	LCD Monitor Screen	CN05-MWNN-64180-324-OWZB	Include d with ARD # 00433	Included with ARD # 00433	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00413	LCD Monitor Screen	CN05-MWNN-64180-324-0XOB	Include d with ARD # 00434	Included with ARD # 00434	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00414	LCD Monitor Screen	CN05-MWNN-64180-324-0XDB	Include d with ARD # 00435	Included with ARD # 00435	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00415	LCD Monitor Screen	CN05-MWNN-64180-324-0GPB	Include d with ARD # 00436	Included with ARD # 00436	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00416	LCD Monitor Screen	CN05-MWNN-64180-324-IWBB	Include d with ARD # 00437	Included with ARD # 00437	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00417	LCD Monitor Screen	CN05-MWNN-64180-324-0XTB	Include d with ARD # 00438	Included with ARD # 00438	Metroe Stationery Store	27-Jan-14	PO#002-14

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00418	LCD Monitor Screen	CN05-MWNN-64180-324-OXSB	Include d with ARD # 00439	Included with ARD # 00439	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00419	LCD Monitor Screen	CN05-MWNN-64180-324-OWTB	Include d with ARD # 00440	Included with ARD # 00440	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00420	LCD Monitor Screen	CN05-MWNN-64180-324-OYXB	Include d with ARD # 00441	Included with ARD # 00441	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00421	LCD Monitor Screen	CN05-MWNN-64180-324-OEUB	Include d with ARD # 00442	Included with ARD # 00442	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00422	LCD Monitor Screen	CN05-MWNN-64180-324-OXEB	Include d with ARD # 00443	Included with ARD # 00443	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00423	LCD Monitor Screen	CN05-MWNN-64180-324-24QB	Include d with ARD # 00444	Included with ARD # 00444	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00424	LCD Monitor Screen	CN05-MWNN-64180-324-OBPB	Include d with ARD # 00445	Included with ARD # 00445	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00425	LCD Monitor Screen	CN05-MWNN-64180-324-24NB	Include d with ARD # 00446	Included with ARD # 00446	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00426	LCD Monitor Screen	CN05-MWNN-64180-324-OO1B	Include d with ARD # 00447	Included with ARD # 00447	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00427	CPU Dell Optiplex 7010 OS	B504GY1-24247145161-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00428	CPU Dell Optiplex 7010 OS	CT64GY1-27885193417-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00429	CPU Dell Optiplex 7010 OS	FH23GY1-33738608521-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00430	CPU Dell Optiplex 7010 OS	5Y64GY1-12950047946-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00431	CPU Dell Optiplex 7010 OS	DNSJ4Y1-29698183369-3010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00432	CPU Dell Optiplex 7010 OS	B624GY1-24310970569-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00433	CPU Dell Optiplex 7010 OS	5X4M4Y1-13007979145-3010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00434	CPU Dell Optiplex 7010 OS	81Z3GY1-17533673353-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00435	CPU Dell Optiplex 7010 OS	H874GY1-37500995017-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00436	CPU Dell Optiplex 7010 OS	HR64GY1-38648172745-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00437	CPU Dell Optiplex 7010 OS	3604GY1-6893352649-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00438	CPU Dell Optiplex 7010 OS	JX4MHY1-43361999497-3010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00439	CPU Dell Optiplex 7010 OS	1Z4M4Y1-4300849801-3010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00440	CPU Dell Optiplex 7010 OS	CY23GY1-28236186505-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00441	CPU Dell Optiplex 7010 OS	GQ23GY1-36459586441-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00442	CPU Dell Optiplex 7010 OS	GP23GY1-36251142345-3010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00443	CPU Dell Optiplex 7010 OS	CJ3M4Y1-27276317065-3010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00444	CPU Dell Optiplex 7010 OS	9G74GY1-20570465737-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00445	CPU Dell Optiplex 7010 OS	996J4Y1-20146207177-3010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00446	CPU Dell Optiplex 7010 OS	3774GY1-695576137-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00447	CPU Dell Optiplex 7010 OS	H504GY1-37307839177-7010	\$980.00	\$980.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00448	Laptop Computer HP Pavillion 17.3	5CD34336G3C	\$1,280.00	\$1,280.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00449	Laptop Computer HP Pavillion 17.3	5CD3441YG7C	\$1,280.00	\$1,280.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00450	Laptop Computer HP Pavillion 17.3	5CD2441HXQC	\$1,280.00	\$1,280.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00451	Laptop Computer HP Pavillion 17.3	5CD3441H4NC	\$1,280.00	\$1,280.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00452	Laptop Computer HP Pavillion 17.3	5CD3441JB8C	\$1,280.00	\$1,280.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00453	Laptop Computer HP Pavillion 17.3	5CD34542Q4C	\$1,280.00	\$1,280.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00454	Laptop Computer HP Pavillion 17.3	5CD34417PNC	\$1,280.00	\$1,280.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00455	Laptop Computer HP Pavillion 17.3	5CD343369NC	\$1,280.00	\$1,280.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00456	Laptop Computer HP Pavillion 17.3	5CD3441W7H	\$1,280.00	\$1,280.00	Metroe Stationery Store	27-Jan-14	PO#002-14
1	00457	Laptop Computer Dell Inspiron 17R	J2762X1	\$1,300.00	\$1,300.00	Crossword Ltd.	24-Feb-14	PO#006-14
1	00458	Laptop Computer Dell Inspiron 17R	D69SZW1	\$1,300.00	\$1,300.00	Crossword Ltd.	24-Feb-14	PO#006-14
1	00459	Laptop Computer Dell Inspiron 17R	BXMSZW1	\$1,300.00	\$1,300.00	Crossword Ltd.	24-Feb-14	PO#006-14

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00460	Laptop Computer Dell Inspiron 17R	23662X1	\$1,300.00	\$1,300.00	Crossword Ltd.	24-Feb-14	PO#006-14
1	00461	Laptop Computer Dell Inspiron 17R	9KNJSY1	\$1,999.00	\$1,999.00	Crossword Ltd.	24-Feb-14	PO#006-14
	00462	Desktop unit Dell Optiplex 9010	CKVC4Y1	\$975.00	\$975.00	Crossword Ltd.	24-Feb-14	PO#006-14
1	00475	Photocopier Canon 2422	HWH03443	\$3,500.00	\$3,500.00	Planet PC	4-Apr-14	PO#014-14
1	00476	Laptop Computer HP	5CD4100087	\$1,275.00	\$1,275.00	Transend	30-Apr-14	PO#018-14
1	00477	Laptop Computer HP	5CD4094MQD	\$1,275.00	\$1,275.00	Transend	30-Apr-14	PO#018-14
1	00478	Apple iPad with Protective Case	DRSMC4FCDFJ1	\$465.75	\$465.75	Insight	15-May-14	PO 1105887
1	00479	Apple iPad with Protective Case	DRSMC5XSDFJ1	\$465.75	\$465.75	Insight	15-May-14	PO 1105887
1	00480	Apple iPad with Protective Case	DRSMC6D1DFJ1	\$465.75	\$465.75	Insight	15-May-14	PO 1105887
1	00481	Apple iPad with Protective Case	DRSMC5WTDFJ1	\$465.75	\$465.75	Insight	15-May-14	PO 1105887
1	00482	Honda Motor Cycle	HMC-032753	\$3,800.00	\$3,800.00	Thunderbird Corp	26-May-14	PO#017-14
1	00483	Honda Motor Cycle	HMC-032753	\$3,800.00	\$3,800.00	Thunderbird Corp	26-May-14	PO#017-14
1	00484	Honda Motor Cycle	HMC-032753	\$3,800.00	\$3,800.00	Thunderbird Corp	26-May-14	PO#017-14
1	00485	Wagtech Water Testing Laboratory	WAG-WE10441	\$13,419.00	\$13,419.00	Earthtime	15-May-14	PO#024-14
1	00489	Dell Optiplex 9010 Processor	FVD8HZ1	\$915.00	\$915.00	Crossword	16-Jul-14	PO- 030-14
1	00490	Dell Optiplex 9010 Monitor	CN-0XDT4K-728723AC-C9NB	Include d with ARD #00487	Included with ARD #00487	Crossword	16-Jul-14	PO- 030-14
1	00503	Iridium 9555 Satellite Phone	L5 21335'B06USL	\$1,209.81	\$1,209.81	Roadpost USA Inc	26-Jun-14	HO PO # 1107083

QTY	ARD #	DESCRIPTION	S/N	UNIT PRICE	TOTAL PRICE	VENDOR	DATE REC'D	PO/VOUCHER #
1	00504	Iridium 9555 Satellite Phone	L5 21335'B06VE5	\$1,209.81	\$1,209.81	Roadpost USA Inc	26-Jun-14	HO PO # 1107083
	00532	Dell Optiplex 9010	FVD8HZ1	\$915.00	\$915.00	Crosswords	6-Aug-14	PO #- 030-14
1	00571	HP Lazerjet N 176n Scanner Printer and copier	CNB7FD5XO	\$750.00	\$750.00	Metro Stationery Store	20-Aug-14	PO #- 041-14
1	00572	40 Ft Containers	N/A	\$4,100.00	\$4,100.00	Monetco	29-Aug-14	PO #- 043-14
1	00573	41 Ft Containers	AMFU8456984	\$4,100.00	\$4,100.00	Monetco	29-Aug-14	PO #- 043-14
1	00589	15 KVA Perkins Generator Silent		\$12,700.00	\$12,700.00	Hi Tech	4-Oct-14	PO #- 053-14
1	00592	HP Pavillion 17.3 Laptop	20000194906802	\$1,250.00	\$1,250.00	Transend Bus Svs	15-Oct-14	PO #- 057-14
1	00593	Dell optiplex 3020 no moni	7HTCN02	\$775.00	\$775.00	Transend Bus Svs	15-Oct-14	PO #- 057-14
1	00594	Robertsport Field Office Signboard	N/A	\$700.00	\$700.00	Creative Group of Companies	16-Oct-14	PO #- 030-14
1	00595	Sanniquellie Field Office Signboard	N/A	\$700.00	\$700.00	Creative Group of Companies	16-Oct-14	PO #- 030-14
1	00596	Voinjama Field Office Signboard	N/A	\$700.00	\$700.00	Creative Group of Companies	16-Oct-14	PO #- 030-14

ANNEX F:
USAID SNAPSHOT
ROBERTSPORT PROGRESS DESPITE EBOLA
APPROVED 24-SEPT-2014



USAID | LIBERIA
FROM THE AMERICAN PEOPLE

SNAPSHOT

Ebola Not Stopping Efforts to Advance Safe Water Access in Robertsport

ROBERTSPORT WATER SYSTEM EXPANSION PROGRESSES



Delivery of construction materials in Robertsport, Liberia.

In August 2014, construction materials arrived in Robertsport for the construction of approximately two kilometers of new water main and three kiosks which will expand safe water access to hundreds of households in the coming months.

Telling Our Story

U.S. Agency for International Development
Washington, DC 20523-1000
<http://stories.usaid.gov>

In 2013, USAID's Liberia Municipal Water Project (LMWP) partnered with the Liberia Water and Sewer Corporation (LWSC) to rehabilitate a water treatment facility in the picturesque seaside city of Robertsport. That milestone marked the end of an era spanning more than two decades during which residents of this county capital lacked access to piped drinking water. It also marked the first phase of USAID support to re-establish piped water throughout the city along with institutions and systems to ensure its sustainability. A Water Master Plan and detailed designs were completed by LMWP in collaboration with LWSC. The next phase of construction per the Master Plan includes a two-kilometer pipeline and three water kiosks. USAID and LWSC are working together to keep construction moving forward despite the Ebola outbreak.

The required materials were delivered in August 2014 and construction began in September under contract to a Joint Venture of two Liberian firms: Pump and Tank Maintenance Company and Atlantic Engineering and Construction Company. LMWP and LWSC provide supervisory and technical support services, while USAID's Sustainable Water and Sanitation in Africa (SUWASA) project provides the construction funding.

Drinking water is currently for sale at the rehabilitated treatment plant located on the outskirts of the city. During periods of peak demand, this LWSC-operated facility sells around 10,000 liters of water per day, mostly to vendors who resell it to residents and businesses throughout the city. When complete, the pipeline extension and kiosks will make water conveniently available to hundreds of households in densely populated areas of Robertsport at an affordable price. This is expected to reduce reliance on water resellers and increase consumption, thereby contributing to long-term system sustainability as well as public health and local economic development. The expansion is expected to be operational before the end of 2014.

The Robertsport pipeline extension will expand access to clean water at a time when water, sanitation and hygiene are more critical than ever. LMWP and LWSC are committed to working with the project-established Local Steering Committees (LSCs) and local governments in the LMWP target cities (Robertsport, Sanniquellie, and Voinjama) on communication and outreach campaigns related to the importance of safe water, sanitation and good hygiene practices, thereby contributing to ongoing efforts to curb the spread of Ebola.

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